DOCUMENT RESUME

ED 127 868 HE 008 175

AUTHOR	Moore, Margaret L.; Perry, Jan F.
TITLE	Clinical Education in Physical Therapy: Present Status/Future Needs. Final Report of the Project on Clinical Education in Physical Therapy.
INSTITUTION	American Physical Therapy Association, New York, N.Y.
SPONS AGENCY	Health Resources Administration (DHEW/PHS), Bethesda, Md. Bureau of Health Manpower.
PUB DATE	Jun 76
CONTRACT	NO1-AH-44112
NOTE	495p.
AVAILABLE FROM	Section for Education, American Physical Therapy Association, 1156 15th Street, N.W., Washington, D.C. 20005
EDRS PRICE	MF-$1.00 HC-$26.11 Plus Postage.
DESCRIPTORS	*Clinical Experience; Costs; Curriculum Development; *Educational Needs; Educational Objectives; Evaluation Methods; *Facility Improvement; Guidelines; *Health Occupations Education; *Higher Education; Manpower Needs; *Physical Therapists; Professional Personnel; Program Evaluation; Site Analysis; Student Teacher Relationship; Tables (Data); *Teacher Improvement; Teacher Role

ABSTRACT

This final report on guidelines for staff development and educational effectiveness in physical-therapy clinical education contains data concerning the selection and use of clinical facilities, selection and roles of clinical faculty, the process of clinical education, and the evaluation process in clinical education. Issues include: manpower distribution; curriculum development; faculty development; educational objectives; program evaluation; site selection and facility planning; educational costs; student-faculty relationship; professional organizations; and program development. Appendixes contain a list of references; standards for clinical education site; maps; supplementary tables; and evaluation examples. (Author/KE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

X

ED127868

CLINICAL EDUCATION IN PHYSICAL THERAPY: PRESENT STATUS/FUTURE NEEDS

Final Report of the Project on Clinical Education in Physical Therapy

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

By:
Margaret L. Moore, *Project Director*
Jan F. Perry, *Research Associate*

Edited By:
E. Shepley Nourse, *Editor*
Ann W. Clark, *Associate Editor*

HE008175

June 1976

Section for Education
American Physical Therapy Association

CLINICAL EDUCATION IN PHYSICAL THERAPY: PRESENT STATUS/FUTURE NEEDS

Final Report of the Project on Clinical Education in Physical Therapy

with conclusions and recommendations on clinical education
sites, faculty development, and the processes of clinical
education and clinical education evaluation

By:
Margaret L. Moore, *Project Director*
Jan F. Perry, *Research Associate*

Edited By:
E. Shepley Nourse, *Editor*
Ann W. Clark, *Associate Editor*

June 1976

Section for Education
American Physical Therapy Association

Final Report of the Project on Clinical Education to Develop Methodologies for Assessing Effectiveness of Clinical Education and Establishing Guidelines for Clinical Staff Development

Contract N01-AH-44112

June 1976

FOR: Department of Health, Education, and Welfare
Public Health Service
Health Resources Administration
Bureau of Health Manpower
Division of Associated Health Professions

BY: Margaret L. Moore, Ed.D., Professor of Physical Therapy
Jan F. Perry, M.A., Research Associate
Division of Physical Therapy
Department of Medical Allied Health Professions
School of Medicine
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina 27514

For

Section for Education
American Physical Therapy Association
1156 15th Street, N.W.
Washington, D.C. 20005

LIST OF PREFATORY MATERIALS

Letter of Transmittal v

Foreword vi

Acknowledgments vii

List of Participants viii

  Task Force Members viii
  Consultants and Staff ix

Table of Contents xi

List of Tables and Figures xviii

List of Maps xxiii

american physical therapy association
1156 15th STREET, N.W., WASHINGTON, D.C. 20005 • (202) 466-2070

EXECUTIVE DIRECTOR
Royce P. Noland

BOARD OF DIRECTORS
PRESIDENT
Charles M. Magistro
Pomona, California

VICE PRESIDENT
Robert C. Bartlett
New York, New York

SPEAKER OF HOUSE OF DELEGATES
Ruth Wood
Fort Worth, Texas

VICE SPEAKER OF HOUSE OF DELEGATES
Robert W. Richardson
Pittsburgh, Pennsylvania

SECRETARY
Susan Collopy
Milwaukee, Wisconsin

TREASURER
James B. McKillip
Woodland Hills, California

DIRECTORS
Marilyn Anderson
Deer Harbor, Washington
Norma P. Fisher
Gainesville, Florida
Marilyn R. Gossman
Birmingham, Alabama
Daniel R. Jones, Jr.
Portland, Oregon
Corrine W. Larson
Minneapolis, Minnesota
Sally C. Pierson
Glenview, Illinois
Jeanne M. Schenck
Galveston, Texas
Peter A. Towne
Hamilton, Ohio
Don W. Wortley
Salt Lake City, Utah

June 15, 1976

Mr. Thomas D. Hatch, Director
Division of Associated Health Professions
Bureau of Health Manpower
Health Resources Administration
Public Health Service
Department of Health, Education, and Welfare
Bethesda, Maryland 20014

Dear Mr. Hatch:

In accordance with the requirements of Contract No. 1 - AH - 44112 on guidelines for staff development and education effectiveness in physical therapy clinical education, I am herewith submitting the final report. The report includes the materials required in the scope of work of the contract, as well as additional material associated with the clinical education process for the physical therapist and the physical therapist assistant student.

The American Physical Therapy Association appreciates the opportunity of being able to pursue this study and we hope that the report will be of benefit not only to our colleagues in physical therapy, but also to others in health professions. The members of the Section for Education of the American Physical Therapy Association are particularly grateful for the confidence shown in the pursuit and completion of this report.

Sincerely,

Charles Magistro

Charles Magistro, President

CM/aj

cc: Margaret L. Moore, President
Section for Education

Royce P. Noland, Executive Director

'76 OUR NATION'S BICENTENNIAL—OUR ASSOCIATION'S 55TH YEAR

FOREWORD

It is indeed a pleasure to write a foreword for the Section for Education Report of the Project on Clinical Education in Physical Therapy. The report represents a true "state of the art" document and contains information that will enable physical therapy educational programs to expand and enhance the clinical components of their curricula. Clinicians and academicians alike will be better equipped to fulfill their respective roles in the preparation of physical therapists and physical therapist assistants and other allied health professions will be able to utilize the model process and tools that were developed in the Project.

The report contains noteworthy data concerning selection and utilization of clinical facilities, selection and roles of clinical faculty, the process of clinical education, and the evaluative process in clinical education. Guidelines and standards are presented that are realistic and progressive which, if implemented, will result in maximum utilization of facilities and faculty, consistency in the process of clinical education, and an overall elevation of the quality of physical therapy education.

Dr. Moore, her staff, the Task Force members, and the academicians and clinicians who participated in the two-year study are to be commended for their contributions to physical therapy education. The effect will be realized for many years to come.

Charles M. Magistro, President
American Physical Therapy Association

Patricia R. Evans, Director
Department of Educational Affairs
American Physical Therapy Association

ACKNOWLEDGMENTS

There are many people to thank for their participation in this Project. We hope that a simple expression of our appreciation to the thousands of physical therapists all over the United States, and to the institutions which granted them the time to devote to the Project can suffice.

The institutions which have allowed their staff members to participate as task force members are to be particularly commended. The work and dedication of the 15 members of the task forces have been of high quality and all members have exhibited outstanding esprit de corps. We have experienced illness, tragedy, and even a hijacked plane, but we have never lost sight of our goal, and have gained much respect for one another. We are eternally grateful for the interest of all concerned, and hope the recipients of this report will derive benefits commensurate with the contributions they made, and that the products generated with their help will be useful to them in the years ahead.

We will always be grateful to those non-physical therapists who participated actively and creatively as consultants to the Project. They saw us over some bumpy roads and around what looked like blind corners. Their special abilities and rich backgrounds were of inestimable value.

The staff and faculty of the Division of Physical Therapy, Department of Medical Allied Health Professions, School of Medicine, University of North Carolina at Chapel Hill has been most gracious in providing space, equipment, and other tangible support for this Project. Mabel M. Parker, Associate Professor and Acting Director in 1974-75, also participated in the development of the materials in Appendix B associated with Standards of a Clinical Education Site. We are grateful for her contributions.

We do not take lightly the responsibilities which come with receiving federal funds to accomplish the work of this unsolicited contract. If we have met and even exceeded the desires of the staff of the Division of Associated Health Professions, Health Resources Administration, Public Health Service, Department of Health, Education, and Welfare, we will have accomplished our mission, but we are grateful for the personal help and attention which we always received from Edison Newman, the Project Officer assigned to us for this work.

The members of the Executive Council of the Section for Education are grateful to the Board of Directors and to the headquarters staff of the American Physical Therapy Association for making it possible for this contract to be realized. Special thanks go to Mrs. Patricia Faw, Coordinator of Component Services, for her gracious handling of many of the details of funding and reporting.

My own personal thanks are extended to special people who contributed as full-time staff and special contributors to the contract. These individuals regularly participated in activities and enjoyed the fellowship of Trailer 11 of Craige Trailer Park on the campus of the University of North Carolina at Chapel Hill where the work of the Project was located. The names of these people are listed elsewhere for the benefit of our readers. For me they are old friends and treasured colleagues.

Margaret L. Moore, Ed.D.,Project Director (1974-76)
and President, Section for Education (1973-76)

LIST OF PARTICIPANTS

TASK FORCE MEMBERS

The task force members are all physical therapists. The topic in parentheses indicates the content area of the member's task force activity.

Robert Babbs, Jr. (Evaluation)
University of Chicago Hospitals
and Clinics
Chicago, Illinois 60637

Patricia A. Borris (Clinical Faculty)
Mercy Hospital
Denver, Colorado 80206

Mable L. Burns (Clinical Faculty)
Wayne State University
Detroit, Michigan 48202

Carol M. Davis (Clinical Faculty)
University of Alabama in Birmingham
Birmingham, Alabama 35294

Ruth Dickinson (Evaluation)
Columbia University
New York, New York 10032

Carolyn Erickson (Site Selection)
Boston University
Boston, Massachusetts 02215

Patricia Kelsey (Clinical Faculty)
Cochise County Hospital Association
Douglas, Arizona 85607

Virginia A. Metcalf, Col., AMSC
(Site Selection)
Department of the Army
Brooke Army Medical Center
Fort Sam Houston, Texas 78234

James R. Morrow (Site Selection)
Indiana University
Indianapolis, Indiana 46202

Maureen Rodgers (Evaluation)
Rancho Los Amigos Hospital
Downey, California 94042

Rosemary M. Scully (Clinical Faculty)
University of Pittsburgh
Pittsburgh, Pennsylvania 15261

Fred Shepard (Evaluation)
Texas Woman's University
Houston, Texas 70025

Harold G. Smith (Evaluation)
Medical College of Georgia
Augusta, Georgia 30902

Mary Susan Templeton (Site Selection)
East Carolina University
Greenville, North Carolina 27834

Mercedes Weiss (Site Selection)
Mt. Hood Community College
Gresham, Oregon 97030

CONSULTANTS

Richard T. Campbell, Ph.D.
Assistant Professor
Department of Sociology
Duke University
Durham, North Carolina 27710

Gordon DeFriese, Ph.D.
Associate Professor
Health Services Research Center
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

Merrel D. Flair, Ph.D.
Associate Professor
Director, Office of Medical Studies
School of Medicine
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

Henry T. Frierson Ph.D.
Assistant Professor
Office of Medical Studies
School of Medicine
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

[illegible] R. Lappi, B.S.
Lecturer, Systems Analyst
A. F. Fortune Biomedical Computation Center
School of Medicine
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

Carol Q. Porter, B.S.
Computer Programmer
A. F. Fortune Biomedical Computation Center
School of Medicine
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

Leonard S. Rosenfeld, M.D., M.P.H.
Professor
School of Public Health
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

Frank T. Stritter, Ph.D.
Associate Professor
Office of Medical Studies
School of Medicine
University of North Carolina
at Chapel Hill
Chapel Hill, North Carolina 27514

OTHER CONSULTANTS AND STAFF

Robert L. Bach
Frank Crowley
Marie Gerstenberg
Mary Lou Heimnick
Joy A. Hembel
Jean S. Hetherington
Kathleen Jordan
Richard Landerman
Grace McGivney
Flora Taylor
Katherine Woodard

TABLE OF CONTENTS

Introductory Note 1

DEFINITIONS 1

- Academic Coordinator of Clinical Education 1
- Behavioral Objective 1
- Center Coordinator of Clinical Education 1
- Certification 2
- Clinical Appointment 2
- Clinical Education 2
- Clinical Education Site 2
- Clinical Faculty Member 2
- Clinical Instructor 2
- Competency 2
- Contract 3
- Didactic Education 3
- Domain 3
- Educational Program 3
- Evaluation 3
- Internship 3
- Job Description 3
- Learning Experience 3
- Learning Process 4
- Licensure 4
- Mastery Learning 4
- Model 4
- Patterns of Clinical Education 4
- Philosophy 4
- Physical Therapy Education 4
- Physical Therapy Service 4
- Role 5
- Simulation 5

Chapter 1. Purpose and Methodology of the Project on Clinical Education 1-1

THE SOCIAL CONTEXT 1-1

- The Project Charge 1-3
- Allies in Education 1-4

METHODOLOGY 1-5

- Project Participants 1-5
- Project Materials 1-6
  - The "Soft Data" 1-6
  - The UNC-CH Study 1-7
  - Bibliography 1-8

THE FINAL REPORT 1-9

Chapter 2. Conclusions and Recommendations of the Project on Clinical Education 2-1

INTRODUCTION 2-1

A. THE CLINICAL EDUCATION SITE 2-2

- Physical Therapy Manpower Distribution 2-2
- Development of Clinical Curriculums and Settings 2-4
  - Basic Factors in Site Development 2-7
  - Limiting Factors in Establishing a New Physical Therapy Service . . 2-7
  - Limiting Factors in Utilizing an Existing Physical Therapy Service. 2-8
- Changing Relationships in Clinical Education 2-8
  - Educators and Practitioners 2-9
  - Educational Administrators and Faculty Members 2-9
  - Practitioners and Educators 2-10
  - Student Input 2-10
- Planning Needs for Clinical Center Utilization 2-11
  - Initiating the Planning Activity. 2-11
  - Objectives of a Regional Planning Committee 2-12
  - Implementation Activities 2-12
- Affirmative Action in Clinical Education 2-13
  - Final Word 2-14

B. THE CLINICAL FACULTY 2-15

- All Clinical Faculty 2-15
- The ACCE 2-17
- The CCCE 2-19
- The CI 2-20
- Clinical Faculty Development 2-21
  - Objectives for Clinical Faculty Development Programs 2-22
  - Learning Experiences for Clinical Faculty Development Programs . . 2-22
  - Implementation of Clinical Faculty Development Programs 2-23
  - Evaluation in Clinical Faculty Development Programs 2-24
  - Responsibility for Clinical Faculty Development 2-24
  - Recruitment of New Clinical Faculty 2-25
- Rewards and Incentives 2-25
- A Final Word 2-26

C. THE PROCESS OF CLINICAL EDUCATION 2-27

- The Role of Objectives 2-27
- A Final Word 2-30

D. THE EVALUATION PROCESS IN CLINICAL EDUCATION 2-31

- Evaluation as a Program 2-31
  - Sources of Measurement Error Involving Validity 2-35
  - Sources of Measurement Error Involving Reliability 2-36
- Evaluation of Student 2-39
  - Grading 2-44
- Evaluation of Clinical Center 2-45

Evaluation of Clinical Faculty 2-48
Evaluation of Learning Experiences 2-52
Evaluation of Curriculum 2-55
A Final Word 2-58

Chapter 3. The Clinical Education Site 3-1

BASIC CONSIDERATIONS 3-1

Objectives 3-2

PATTERNS, PROBLEMS, AND OPPORTUNITIES 3-5

Timing Considerations 3-5
Constraints 3-8
Utilization Patterns and Planning 3-9
Opportunities in Clinical Centers 3-12
Site Selection Factors 3-15
  Guidelines and Opinions 3-15
  Geographical Factors 3-18
  Criteria for Selection 3-20

CHARACTERISTICS OF CURRENT SITES 3-22

Overall Administrative Characteristics 3-22
  Service Hours 3-23
  Space 3-23
  Staff 3-23
  Other 3-24
Teaching Hospitals 3-24
  Space 3-24
  Staff 3-24
  Patient Care 3-24
  Students 3-25
  Equipment 3-25
Rehabilitation Centers 3-26
  Space 3-26
  Staff 3-26
  Patient Care 3-26
  Students 3-27
  Equipment 3-27
Pediatric Outpatient Programs 3-27
  Space 3-27
  Staff 3-27
  Patient Care 3-27
  Students 3-28
  Equipment 3-28
Extended-Care Facilities 3-28
  Space 3-29
  Staff 3-29
  Patient Care 3-29
  Students 3-30
  Equipment 3-30

- Public Health Agencies 3-30
  - Space 3-30
  - Staff 3-31
  - Patient Care 3-31
  - Students 3-31
  - Equipment 3-32
- Private Practices 3-32
  - Space 3-32
  - Staff 3-32
  - Patient Care 3-33
  - Students 3-33
  - Equipment 3-33
- Summary 3-34

OTHER CONSIDERATIONS 3-34

- Cost Factors in Clinical Education 3-34
- Development and Maintenance of Relationships 3-39

Chapter 4. The Clinical Faculty 4-1

CHARACTERISTICS AND FUNCTIONS 4-1

- Academic Coordinator of Clinical Education (ACCE) 4-2
- Center Coordinator of Clinical Education (CCCE) 4-4
- Clinical Instructor (CI) 4-7

RELATIONSHIPS 4-10

- Faculty 4-11
  - ACCE-CCCE 4-11
  - ACCE-CI 4-11
  - CCCE-CI 4-12
  - Peers 4-13
- Student-Faculty 4-13
  - Student-ACCE 4-14
  - Student-CCCE 4-14
  - Student-CI 4-15
- Other Relationships 4-16

GLEANINGS FROM THE LITERATURE 4-17

- Characteristics and Functions 4-17
  - ACCE 4-17
  - CCCE 4-18
  - CI 4-19
- Clinical Faculty Development 4-20
  - Steps in Program Development 4-21

REWARDS AND INCENTIVES 4-22

Chapter 5. The Process of Clinical Education 5-1

THE LEARNING PROCESS 5-1

DEVELOPING A PROGRAM 5-3

- Objectives 5-3
- Learning Experiences 5-5
  - Traditional Faculty and/or Traditional Locales 5-6
  - Nontraditional Faculty and/or Nontraditional Locales 5-6
  - Nontraditional Formats 5-7
  - Recent Data 5-8
- Selection and Sequencing of Learning Experiences 5-10
- Implementation of the Learning Experience 5-11
- Needs and Constraints 5-12
- Evaluation 5-13

FACTORS THAT INFLUENCE LEARNING 5-13

- Factors Related to Educational Institution 5-14
- Factors Related to Clinical Center 5-16
- Factors Related to Clinical Faculty 5-17
- Factors Related to Student 5-18
- Conclusion 5-19

Chapter 6. The Evaluation Process in Clinical Education 6-1

PURPOSES OF EVALUATION 6-1

BASIC CONSIDERATIONS IN EVALUATION 6-3

- Overview of the Process 6-3
- Preliminary Questions and Cautions 6-4
  - Self-Evaluation 6-5
  - Peer Evaluation 6-7
  - Evaluation by Superior 6-8
  - Sources of Error 6-8

A CLOSER LOOK AT EVALUATION METHODS 6-13

- Steps in Instrument Development 6-13
- Format of Instruments 6-18
  - Narrative Reports 6-19
  - Anecdotal Records 6-19
  - Rating Scales 6-21
  - Interpersonal Process Approaches 6-23
  - Q-Sort Technique 6-23
- Other Evaluation Methods 6-23
  - Simulations 6-24
  - Other 6-26

EVALUATION FOCUS 6-27

Evaluation of the Student 6-28
  Grading 6-30
Evaluation of the Clinical Education Site 6-33
Evaluation of the Clinical Faculty 6-35
  Data on Faculty Evaluation 6-37
Evaluation of Learning Experiences 6-38
Evaluation of the Curriculum 6-40

CONCLUSION 6-42

Chapter 7. Future Considerations for Clinical Education 7-1

SOCIAL FOCAL POINTS 7-1

EDUCATIONAL FOCAL POINTS 7-2

EVALUATIONAL FOCAL POINTS 7-2

ORGANIZATIONAL FOCAL POINTS 7-3

APPENDIXES

Appendix A. List of References A-1

INTRODUCTORY NOTE A-2

Appendix B. Standards for a Clinical Education Site in Physical Therapy. B-1

TABLE OF CONTENTS . . . . B-v

DEFINITIONS AND BASIC PRINCIPLES B-1

CONSIDERATIONS IN THE PLACEMENT OF STUDENTS B-7

STATEMENT OF STANDARDS B-12

LIST OF REFERENCES B-23

SELF-ASSESSMENT AND SUMMARY B-27

EXAMPLE OF A FORM FOR ASSESSMENT BY STUDENT B-66

Appendix C. Maps C-1

INTRODUCTORY NOTE C-2

Appendix D. Supplementary Tables D-1

INTRODUCTORY NOTE D-2

SECTION A. "SOFT DATA" FROM EDUCATIONAL ADMINISTRATORS D-3

SECTION B. "SOFT DATA" FROM CLINICAL CENTERS D-8

SECTION C. TASK FORCE DELIBERATIONS D-15

SECTION D. UNC-CH STUDY D-17

SECTION E. NATIONAL CENTER FOR HEALTH STATISTICS D-54

Appendix E. Evaluation Examples E-1

INTRODUCTORY NOTE E-2

LIST OF TABLES AND FIGURES

Chapter 1

Table 1.1 "Soft Data" Response Rate 1-10
1.2 UNC-CH Study Response Rate 1-11

Chapter 2

Figure 2.1 Schematic Presentation of the Evaluation Process 2-32
2.2 Tabular Presentation of the Evaluation Process in Clinical Education 2-34

Chapter 3

Table 3.1 Areas of Clinical Education Objectives from Educational Programs 3-42
3.2 Ranking of Objectives Listed in Table 3.1 3-43
3.3 Areas of Clinical Education Objectives of Clinical Centers 3-44
3.4 Ranking of Objectives Listed in Table 3.3 3-45
3.5 Affiliation Agreements between Educational Programs and Clinical Centers 3-46
3.6 Educational Programs Affiliated with Selected Types of Clinical Centers 3-47
3.7 ACCE Willingness to Make a Variety of Clinical Assignments 3-48
3.8 Clinical Education Sites Required of all Students 3-50
3.9 Interest of Academic Coordinator of Clinical Education in Affiliating with Various Types of Programs 3-51
3.10 Reasons for Difficulty in Finding Good Clinical Affiliation Sites 3-52
3.11 Factors in Selecting a Clinical Education Site 3-53
3.12 Clinical Center Self-Identification by Type 3-54
3.13 Services Referring Patients to Physical Therapy 3-55
3.14 Referral Source of Patient Load in Selected Types of Clinical Centers. 3-56

Chapter 4

Table 4.1 Short Course Attendance by Clinical Faculty During Past 3 Years 4-25
4.2 Physical Therapy Experience of Clinical Faculty 4-26
4.3 Distribution of Time of Clinical Faculty 4-28
4.4 Self-Rating of Competencies by the CCCE 4-29
4.5 Experience as a Clinician Required for Position of Center Coordinator of Clinical Education (UNC-CH Study). 4-29
4.6 Required and Recommended Experience for the CCCE ("Soft Data" Response) 4-30
4.7 Patient Load of Physical Therapy Personnel 4-31
4.8 Number of Students Assigned to a Clinical Instructor . . . 4-32
4.9 Teaching Methods in Use in Clinical Education 4-33

4.10 Clinical Education Responsibilities of the Clinical Instructor 4-34
4.11 Qualifications Required of the Clinical Instructor . . . 4-35
4.12 Qualifications Recommended for the Clinical Instructor . 4-36
4.13 Information Available to Advanced Student Before the Clinical Assignment 4-37
4.14 Student Involvement in Choosing Assignments 4-38
4.15 Academic Coordinator of Clinical Education as a Source of Information Regarding Unique Learning Opportunities at the Clinical Center 4-38
4.16 Content of Orientation Programs at Clinical Centers . . . 4-39
4.17 Items to be Included in an Orientation Program for Beginning and Advanced Students at the Clinical Education Center 4-40
4.18 New Graduate Agreement with Statements Regarding the Clinical Instructor 4-41
4.19 Clinical Instructor Agreement with Statements Regarding Students 4-42
4.20 Identifying the Effective Academic Coordinator of Clinical Education 4-43
4.21 Identifying the Effective Center Coordinator of Clinical Education 4-44
4.22 Identifying the Effective Clinical Instructor 4-45
4.23 Factors Contributing to Poor Clinical Education Experience (New Graduate Response) 4-46
4.24 Undesirable Characteristics of a Clinical Instructor According to New Graduates 4-47
4.25 Courses Offered by Educational Programs to New Center Coordinators of Clinical Education 4-48
4.26 Availability of Funds for Continuing Education As Reported by CCCEs 4-49
4.27 Importance of Methods for Updating Skills and Abilities of Clinical Instructors 4-49
4.28 Rewards for Which Student Works 4-50

Chapter 5

Table 5.1 Personnel With Whom Students Had Contact 5-20
5.2 Location of Clinical Education Activities Within Clinical Centers (Clinical Center Response) 5-21
5.3 Student Participation in Clinical Center Activities (Clinical Center Response) 5-22
5.4 Student Participation in Clinical Center Activities (New Graduate Response) 5-23
5.5 Records Not Widely Used for Student Learning 5-24
5.6 Importance of Learning Opportunities 5-25
5.7 Factors Absolutely Essential for a Good Clinical Education Experience 5-27
5.8 Importance of Subject Areas for Inclusion in Clinical Education (Clinical Instructor Response) 5-28
5.9 Desirability of Extending Opportunities for Particular Clinical Education Experiences (New Graduate Response) 5-29

5.10 Clinical Center Ratings of Adequacy of Length of Clinical Assignments 5-30

Chapter 6

Table 6.1 Dealing With Student Failure 6-43
6.2 Inconsistencies and Difficulties In Evaluation 6-44
6.3 Areas of Performance of the Clinical Instructor to be Evaluated by the Student 6-45
6.4 Areas of Performance of the Clinical Instructor to be Evaluated by Other Clinical Staff Members (Educational Areas Only) 6-46

Appendix D

Section A: "Soft Data" from Educational Administrators

Table A.1 Qualifications of the Academic Coordinator of Clinical Education as Described in Job Descriptions D-3
A.2 Frequency of Occurrence of Various Patterns of Clinical Education D-4
A.3 Length of Final Full-Time Block Assignments for Programs also Having Concurrent Assignments D-4
A.4 Responsibilities of the Academic Coordinator of Clinical Education D-5
A.5 Programs for Clinical Faculty Development Originating from Academic Institutions D-7

Section B: "Soft Data" from Clinical Centers

Table B.1 Number of Months per Year Centers Are Involved in Clinical Education D-8
B.2 Costs and Benefits of Clinical Education Reported Clinical Centers D-9
B.3 Clinical Education Responsibilities of the Center Coordinator of Clinical Education D-11
B.4 Qualifications Required of the Center Coordinator of Clinical Education D-12
B.5 Qualifications Recommended for the Center Coordinator of Clinical Education D-13
B.6 Responsibilities of the Chief Physical Therapist in the Education of Physical Therapy Students D-14

Section C: Task Force Deliberations

Table C.1 Benefits of Clinical Education D-15
C.2 Clinical Education Costs D-16

Section D. UNC-CH Study

Table D.1 Frequency with Which Advanced Students Had Their Own Objectives D-17
D.2 Levels of Students Clinical Centers Are Willing to Accept D-18
D.3 Students Assigned to Selected Types of Clinical Centers During 1974. . . . . D-19
D.4 Student Load in Selected Clinical Centers for 1974 . . . D-21
D.5 Clinical Centers Affiliating with One or More than One Educational Program D-22
D.6 Time Coverage of Physical Therapy Service at Selected Types of Clinical Centers D-23
D.7 Location of Selected Types of Clinical Centers D-23
D.8 Administration and Funding of Selected Types of Clinical Centers D-24
D.9 Physical Therapy Personnel Employed in Selected Types of Clinical Centers D-25
D.10 Physical Therapy Personnel Working With Students in Selected Types of Clinical Centers D-26
D.11 Patient Load for Staff in Selected Types of Clinical Centers D-27
D.12 Patient Load for Students in Selected Types of Clinical Centers D-28
D.13 Patient Load of Selected Types of Clinical Centers . . . D-29
D.14 Age of Patients in Selected Types of Clinical Centers . D-30
D.15 Length of Care Received by Patients at Selected Types of Clinical Centers D-31
D.16 Treatment Location in Selected Types of Clinical Centers. D-32
D.17 Equipment Use in Teaching Hospitals D-34
D.18 Equipment Use in Rehabilitation Centers D-35
D.19 Equipment Use in Pediatric Outpatient Departments . . . D-36
D.20 Equipment Use in Extended-Care Facilities D-37
D.21 Equipment Use in Public Health Agencies D-38
D.22 Equipment Use in Private Practices D-39
D.23 Space Available for Staff in Selected Types of Clinical Centers D-40
D.24 Advantages and Disadvantages of Multiple Affiliations (Clinical Center Response) D-41
D.25 Reasons for Termination by a Center of an Affiliation With an Educational Program D-42
D.26 Reasons for Termination by an Educational Program of an Affiliation with a Center D-43
D.27 Persons Involved in Clinical Education by Level of Education D-44
D.28 Educational Pursuit of Clinical Faculty D-45
D.29 Persons Involved in Clinical Education by Experience . . D-47
D.30 Persons Involved in Clinical Education by Age D-48
D.31 Persons Involved in Clinical Education by Sex D-48
D.32 Factors Contributing to a Good Clinical Education Experience D-49

D.33 Modifications of Clinical Education Requirements Allowed by the Academic Coordinator of Clinical Education for the Student with Pre-Physical Therapy Experience D-51
D.34 Student Input into Site Selection D-51
D.35 Method Clinical Instructor Utilizes to Determine Student Activities During Assignment D-52
D.36 Limiting Factors in Designing Clinical Education in a Center D-53

Section E: National Center for Health Statistics

Table E.1 Utilization of Hospitals in State A for Clinical Education of Physical Therapy Students D-54
E.2 Utilization of Other Health Facilities in State A for Clinical Education of Physical Therapy Students . D-55
E.3 Utilization of Nursing Homes in State A for Clinical Education of Physical Therapy Students D-56
E.4 Utilization of Facilities for the Mentally Retarded in State A for Clinical Education of Physical Therapy Students D-57
E.5 Utilization of Hospitals in State B for Clinical Education of Physical Therapy Students D-58
E.6 Utilization of Other Health Facilities in State B for Clinical Education of Physical Therapy Students . D-59
E.7 Utilization of Nursing Homes in State B for Clinical Education of Physical Therapy Students D-60
E.8 Utilization of Hospitals in State C for Clinical Education of Physical Therapy Students D-61
E.9 Utilization of Other Health Facilities in State C for Clinical Education of Physical Therapy Students . . . D-62
E.10 Utilization of Hospitals in State D for Clinical Education of Physical Therapy Students D-63
E.11 Utilization of Other Health Facilities in State D for Clinical Education of Physical Therapy Students . . . D-64
E.12 Utilization of Nursing Homes in State D for Clinical Education of Physical Therapy Students D-65
E.13 Utilization of Facilities for the Mentally Retarded in State D for Clinical Education of Physical Therapy Students D-66
E.14 Utilization of Hospitals in State E for Clinical Education of Physical Therapy Students D-67
E.15 Utilization of Other Health Facilities in State E for Clinical Education of Physical Therapy Students . . . D-68
E.16 Utilization of Hospitals in State F for the Clinical Education of Physical Therapy Students D-69
E.17 Utilization of Nursing Homes in State F for the Clinical Education of Physical Therapy Students D-70

LIST OF MAPS

NATIONAL MAPS: EDUCATIONAL INSTITUTION VIEWPOINT

Map 1. Physical Therapy Educational Programs in the U.S. (1974) C-3

Map 2. Examples of Clustered Distribution of Clinical Centers Affiliating with PT Programs (1974) C-4

Map 3. Example of Widespread Distribution of Clinical Centers Affiliating with a PT Program (1974) C-5

Map 4. Sample Distributions of Clinical Centers Affiliating with PTA Programs (1974) C-6

NATIONAL MAPS: CLINICAL INSTITUTION VIEWPOINT

Map 5. Clinical Institutions Affiliating with 10 or more PT Educational Programs (1974) C-7

Map 6a. Clinical Institutions Affiliating with 6 to 9 PT Educational Programs (1974) C-8

Map 6b. Clinical Institutions Affiliating with 6 to 9 PT Educational Programs (1974) C-9

STATE MAPS: CLINICAL EDUCATION CENTERS

Map 7. Distribution of Clinical Education Centers in Massachusetts (1974) C-10

Map 8. Distribution of Clinical Education Centers in Michigan (1974) . C-11

Map 9. Distribution of Clinical Education Centers in North Carolina (1974) C-12

Map 10. Distribution of Clinical Education Centers in Texas (1974) . . . C-13

Map 11. Distribution of Clinical Education Centers in Washington (1974) C-14

INTRODUCTORY NOTE

The table of contents shows the organization of this report, and Chapter 1, which discusses the purpose and methodology of the Project on Clinical Education in Physical Therapy, comments further on the organization of text, tables, maps, and other materials. Before the reader ventures into the chapters, it might be helpful to note a few points about format and to define some terms with reference to their use in this report.

Appendix A is a list of references, arranged alphabetically by author and numbered sequentially starting with 001. The points of reference in the text show the reference number in parentheses in script type.

The page numbering system is separate for each unit of text. For differentiation, the page number at the bottom of each page includes the chapter number or alphabetical designation of the appendixes.

Tables in Appendix D, grouped by source in alphabetical units, are numbered by unit. Tables in the chapters include the chapter number as part of the table number.

DEFINITIONS

To facilitate understanding, some terms used in the text are defined below. Other terms, used less often and adequately defined in the text, are not included.

Academic Coordinator of Clinical Education (ACCE)

An individual, employed by the educational institution, whose primary concern is relating the students' clinical education to the curriculum. This coordinator administers the total clinical education program and, in association with the academic and clinical faculty, plans and coordinates the individual student's program of clinical experience with academic preparation, and evaluates the student's progress.

Behavioral Objective

A stated target for a specific learning experience. The written objective identifies the behavior which, when exhibited, indicates that learning has occurred and the objective has been satisfactorily completed.

Center Coordinator of Clinical Education (CCCE)

The individual at each clinical education site who coordinates and arranges the clinical education of the physical therapy student and who communicates with the ACCE and faculty at the educational institution. This person may or may not have other responsibilities at the clinical center.

Certification

The process by which a nongovernmental agency or association grants recognition to a person who has met its specified, predetermined qualifications.

Clinical Appointment

The appointment of a clinician to a university faculty rank. Reimbursement and voting privileges are not usually associated with the appointment. The faculty member may be involved in academic activities (classroom teaching or committee functions) and may be awarded privileges based on appointment. The primary responsibility of this person is to the employing agency, not the academic institution.

Clinical Education (clinical training, clinical assignments, practicum, clinical affiliation, field experience, clinical experience)

The portion of the student's professional education which involves practice and application of classroom knowledge and skills to on-the-job responsibilities. This occurs at a variety of sites and includes experience in evaluation and patient care, administration, research, teaching, and supervision. It is a participatory experience with limited time spent in observation.

Clinical Education Site (clinical center, center, field experience placement, clinical site)

A health care agency or other setting in which learning opportunities and guidance in clinical education for physical therapy students are provided. The clinical education site may be a hospital, agency, clinic, office, school, or home and is affiliated with one or more educational programs through a contractual agreement.

Clinical Faculty Member (ACCE, CCCE, CI)

Any person with responsibilities in clinical education. This includes both academic and clinical personnel.

Clinical Instructor (CI) (preceptor)

A person who is responsible for the direct instruction and supervision of the physical therapy student in the clinical education setting.

Competency

Ability and skill sufficient to meet specific standards of performance.

Contract

An exchange of promises or the giving of a promise in return for some specific consideration between two or more persons or organizations. Obligations of the parties to do or not to do certain things in a given situation which will permit or promote attainment of ends or goals desired by both. It may be oral or in writing. (159)

Didactic Education

That part of the educational process which occurs in the classroom and emphasizes skills and theoretical concepts to be put into practice in the clinical education phase of the educational process.

Domain

In general, a territory over which authority or control is exerted. In present specific use it refers to three aspects or territories of learning: the affective domain which deals with interests and attitudes, the cognitive domain which deals with specific information and ways of handling it, and the psychomotor domain which pertains to motor manipulation of material and objects. Learning objectives are written to encompass behavior specific to each domain.

Educational Program (educational institution, academic institution)

The academic entity responsible for the education of physical therapy students.

Evaluation

"The appraisal of the worth of a person, place, or thing in terms of internal or external criteria." (031) In the Project on Clinical Education, the emphasis has been on evaluation for educational purposes.

Internship

Postgraduate clinical experience.

Job Description

A document enumerating the tasks, responsibilities, authority, and minimum qualifications of a person in an employment position.

Learning Experience

Any experience which allows or facilitates a change in behavior. A planned learning experience includes "a learner, an objective for the learner, a situation devised to produce a response that contributes to the objective, a response by the student and reinforcement to encourage the desired response." (077)

Learning Process

The series of activities (physical and mental) by which a person incorporates new facts, ideas, and skills into the body of knowledge.

Licensure

Process by which a governmental agency grants permission: (a) to persons meeting predetermined qualifications to engage in a given occupation or (b) to institutions to perform specified functions.

Mastery Learning

Full mastery of each item to be learned.

Model

One whose behaviors and values are acceptable and should be copied by those learning acceptable behavior. The desirable model is ideal, but negative or undesirable models also exist.

Patterns of Clinical Education

Two patterns of organization of clinical education within the total educational program: (a) concurrent, in which a portion of each day or week is devoted to didactic instruction and the remainder is spent in clinical education, and (b) nonconcurrent, when the student is engaged full time in a clinical education setting.

Philosophy

The beliefs, concepts, and attitudes of an individual or group such as a health care agency or an educational institution.

Physical Therapy Education

Education for all levels of physical therapy students, including graduate. The term "physical therapy" applies whether the student is preparing to function as a physical therapist or a physical therapist assistant.

Physical Therapy Service

The organizational entity responsible for the delivery of services (e.g., clinical department of a hospital).

Role

The proper or customary function of an individual as it relates to his employment position. Nontraditional role: functions or behaviors not commonly performed by or associated with an individual or group; in physical therapy this would include the roles of consultant and researcher as well as patient care and evaluation at nontraditional sites (neighborhood health clinics, public schools, health maintenance organizations). Traditional role: functions historically performed by an individual or group. In physical therapy this would include direct patient treatment and evaluation in a hospital or clinic.

Simulation

"A simulated clinical problem . . . designed to imitate life--its challenges and emergencies--while at the same time providing protection from the hazards of even a momentary lapse in judgment that inexperience or inattention may cause." (150)

Chapter 1

PURPOSE AND METHODOLOGY OF THE PROJECT ON CLINICAL EDUCATION

The present volume is the final report of the Project on Clinical Education in Physical Therapy. It is the result of work conducted under a two-year contract to examine the education of physical therapy students, with primary focus on the clinical phase of their education. Clinical education is an inherent part of the total educational experience of students of the health professions. At the same time, because of clinical education's special characteristics, it can and must be examined separately, as are such other components of the total curriculum as the basic sciences, the social sciences, and the theory of practice. Important aspects of the educational experience of the physical therapy student take place in the clinical environment, physically removed from the academic classroom. Because of the complex relationships which exist between the educational institutions and the many types of clinical settings where students receive this portion of their education, the Project concentrated on some key issues affecting these relationships. The place, the people, the process of clinical education, and the evaluation of all elements were the focus of concern as discussed in these pages, which document the activity that led to the Project's conclusions and recommendations. The broad goal is to improve the clinical education portion of the curriculum--both for the benefit of the students and the public the students are educated to serve.

THE SOCIAL CONTEXT

Before going on to describe the methodology, it is appropriate to put the Project on Clinical Education in historical context. Everyone involved in education for the health professions, is well aware that since the early 60s there has been tremendous growth in the numbers and types of personnel involved in the health care delivery system. In physical therapy, the numbers of students, educational programs, academic faculty, and clinical faculty have all markedly increased. Since the Worthingham studies of the mid 60s, and perhaps in part because of them, major changes in the physical therapy curriculum and the health care delivery system have occurred. (244)

The voices, wishes, and demands of the consumers of health services are now playing a part in the planning of health education. Government sponsored programs like Medicare and Medicaid, health maintenance organizations, utilization review, medical audit, peer review, comprehensive health planning, and the proposed national health insurance have and will continue to play their parts. The demand for equal access to education and to health care will require further modification in the education of health professionals, dictating when and how their services are delivered.

These changes generated by legislation and social pressure are ongoing; new needs and motivations for change will continue to be felt, and properly so.

Too frequently, however, the responsive recommendations are implemented so slowly that curriculums are not prevented from becoming outdated, static, unresponsive, and incapable of filling the needs of either the students or the consumers.

The gap between medical knowledge and the utilization of that knowledge for the public good is well known. Similarly, there are gaps between recognized curriculum needs, proven teaching strategies, and basic theoretical knowledge and their implementation in physical therapy education. This appears to be a time of soul-searching and rejuvenation of programs on the part of physical therapy educators who are ready to modify curriculums, teaching strategies, and interinstitutional cooperative efforts in order to keep pace more rapidly with quality performance, with public needs and demands for services, and with the objectives and talents of the students.

Simultaneously with the planned-for and clearly identified need to increase personnel in the health professions, there has been a less justifiable increase in the growing numbers of the health professional and occupational programs, based in part on decreasing college enrollment in the liberal arts. In order to keep college enrollments elevated, there is a tendency for some colleges and universities to create additional health professional programs to keep their institutions solvent. Project participants concluded that the initiation of any new programs should be thoroughly evaluated, based on the needs of society and the community the graduate is expected to serve, as well as on cost considerations in the utilization of national, state and local resources. These resources must include academic faculty, clinical faculty, clinical sites, and the variety of learning experiences needed for well-balanced, high-quality education for physical therapy students.

Present consumer needs are not being met in physical therapy as it is. To base additional curriculums on outdated models would be a tragic waste of time and resources, resulting only in inadequately prepared students and further unmet consumer needs. This theme was underlying in all Project deliberations.

The scope of consumer services involving physical therapy now extends from the neonatal period through the full span of human life to death; it includes services rendered in a wide variety of settings, settings which only a far-thinking individual would have identified 15 or 20 years ago. In order for physical therapy to serve present and future consumers, when and where there is need, there will have to be planned growth in the number of graduates--growth by expansion of stronger existing educational programs and carefully planned new ones.

In December 1974, material released by the American Physical Therapy Association (APTA), the national voluntary membership association for physical therapists and physical therapist assistants, reported that in 1970 there were 2686 physical therapy students enrolled in physical therapy programs; in 1974 there were 4276; in 1980 there are expected to be 8440 students of physical therapy. In 1965 there were 42 educational programs in physical therapy that were approved by the APTA in collaboration with the American Medical Association (AMA). In 1974 there were 66, and in 1980 there are projected to be 85 accredited programs for the preparation of the entry-level professional worker. (See Map 1 in Appendix C.)

The same report covered the physical therapist assistant programs, which began in 1967 and graduated their first students in 1969. In 1974 there were 43 programs; 60 programs are projected for 1980. The numbers of students enrolled grew from 15 in 1969 to 574 graduates in 1974, with a projection of 981 graduates in 1980.

Programs for physical therapy at the graduate level have also increased. In 1971-72 only 95 physical therapists were reported enrolled in graduate studies. In 1973-74 the number had grown to 189. In 1980 the total number of full-time-equivalent students in graduate study is expected to be 279. These are small numbers in relation to the number of current and projected educational programs and the numbers of students in physical therapy and physical therapist assistant programs.

Although there are advanced degrees based primarily on the academic discipline of physical therapy, many physical therapists pursue masters and doctorate degrees and graduate studies in other disciplines, in subject areas which complement their basic preparation in physical therapy. Accurate figures are not available on these programs and the number of students enrolled. There has been a steady increase in the number of graduate students and the demand is increasing for those with graduate preparation for classroom and clinical teaching, academic and clinical administration, and supervision, and for those with in-depth preparation for the needs of special classes of patients and for basic research of fundamental issues in physical therapy.

As the number and type of physical therapy students increased, pressure mounted across the United States for additional physical therapy clinical settings, especially in geographic areas where several educational programs were drawing on the same clinical resources in a city, town, state, or region. Competition for student placement in some clinical centers, along with the concern of the clinical faculty about the multiplicity of requests and demands on their time, talent, and resources, has been felt for several years. Clinical faculty began to be more assertive on their own behalf, expressing the need for a more orderly and democratic approach to clinical education. They have expressed a desire for sharing academic responsibility, for sharing in the planning process, and for more authority and involvement in evaluating the total educational experience. Some clinical faculty feel the multiplicity of evaluations required for staff, students, and the clinical education process has become burdensome in those centers associated with more than one educational institution and those assisting in the education of more than one level of student.

The Project Charge

With the above issues in mind, the two-year contract on clinical education in physical therapy was negotiated by the Section for Education of the APTA in July 1974. The charge is directed toward areas in need of change, specifically: (a) the development of criteria and guidelines which will be of assistance to educational institutions in the selection of clinical centers to be utilized in the clinical segment of the educational programs for physical therapists and physical therapist assistants; (b) an analysis of the current status of physical therapy faculty development in all types of clinical education centers and preparation of guidelines for the additional development of these faculty where appropriate, as well as for future faculty; and (c) the development of evaluation methods for determining the quality of education offered by the clinical components of physical therapist and physical therapist assistant education programs.

This final report, although developed with physical therapy as a primary focus, should be of value also to academic and clinical faculty in other health professions.

Physical therapy, as is true with other health professions, has formal guidelines for the development of educational programs. These are available from the headquarters office of the APTA in Washington, D. C. Physical therapy educational programs must meet accreditation standards in order for graduates to be accepted, credentialed, and licensed. For the physical therapist assistant programs there is a Handbook of Information Concerning Interim Approval of an Educational Program for the Physical Therapist Assistant, available since April 1975, from the APTA. Also available from the same source and published at the same time is the Surveyor's Handbook of Information Concerning On-Site Evaluation of an Educational Program for the Physical Therapist. These and other documents offer guidance to institutions considering the establishment of new curriculums and to those considering modification of existing programs, as well as instructions for self-assessment associated with resurvey for approval and accreditation. These materials are essential, but they offer only a framework for guidance, and much of the planning for new programs and the modification of existing programs must rely on direction from many sources. (009, 068, 050, 071, 016, 023, 010)

Allies in Education

Much has been said by writers and speakers during the past decade or more on the interrelatedness of educational institutions and clinical education sites and their responsibility to society. Knowles speaks eloquently of the relationship of the medical school, the teaching hospital, and their societal responsibilities. Ellis states that society is better informed, more critical, and wishes to become involved in all matters which affect the individual's way of life. He says furthermore that the administration of educational institutions is no longer sacrosanct. (126, 083)

The Carnegie Commission on Higher Education in 1970 recommended expanding the function of the university health science centers so that each can play the central role in collaborating with other agencies in the development of improved medical care in the delivery systems in their regions. The plan suggested covers not only the university health science centers, but also the concept of area health education centers remote from the university environment but related to it. Pellegrino also describes a regionalized medical institutional network, with an academic health center functioning as the core of each network to integrate manpower development, health care delivery, and health care research. Potential health education centers which currently exist in this country should be utilized to meet the needs of service, research, and manpower preparation. They should be governed by contractual agreements with the communities they serve. Such programs should provide a full range of health care programs, and a wide variety of educational opportunities for health personnel, not only for students, including physical therapy students, but also for existing staff professionals. (053, 181, 224, 026)

Discussing manpower needs in the allied health professions the late Israel Light, Dean of the School of Allied Health of the University of Health Sciences of the Chicago Medical School, remarked that for educational institutions and clinical centers:

> . . . to produce the numbers and kinds of allied health personnel required to deliver competent health care to the nation's population, they must consider themselves as integral partners and must share human expertise, physical plants, financial costs, and all of the resources necessary to do the job. (134)

In discussing the relationship of the academic institution to the health care delivery agency, Light speaks of the dual responsibility, the interdependence, and the integrated partnership. He further states that neither colleges nor hospitals alone can produce the numbers and kinds of allied health personnel needed to deliver optimum patient care, and that success requires a joint endeavor. The alternative to cooperation is irrelevant educational preparation, inadequately trained personnel, economically costly job turnover, and high attrition rates.

Others have emphasized that the people at the clinical education site and the people at the educational institution are allies in education. This was a strong theme throughout the work of the Project on Clinical Education. (162, 203)

METHODOLOGY

The process followed by the Project throughout its two-year span involved many people and materials from a variety of sources. These are briefly described in the following pages. All of the Project participants are listed in the preliminary pages of this report.

Project Participants

The Executive Committee of the Section for Education of the APTA selected the Project Director, and on July 1, 1974, the staff headquarters was set up in cooperation with the Division of Physical Therapy, Department of Medical Allied Health Professions, School of Medicine, University of North Carolina at Chapel Hill (UNC-CH).

A number of consultants outside the field of physical therapy were appointed to assist with the Project. Each has contributed through individual experience, expertise, and competency; some have identified additional talented colleagues to assist. The consultants are from various locales, particularly UNC-CH and Duke University, and represent expertise in education, sociology, health administration, and other fields. Additional consultants were needed to carry out much of the work under the contract, such as information gathering, analysis, writing, cartography, and editing. The contributions of all have enriched the Project.

At the outset, three topical task forces composed of six physical therapists each were established. One concentrated on site selection, one on the development of clinical faculty, and one on the many facets of evaluation. The Project Director served as the sixth member on each of the task forces. All five regions of the Section for Education of the American Physical Therapy Association were represented on each task force, and each had at least two clinicians in its makeup. All types of physical therapy education were represented on the task forces, including the physical therapist assistant program, the baccalaureate program, the basic masters degree curriculum for the preparation for entry-level physical therapists, and the advanced graduate program for those already prepared as physical therapists.

The deliberations of the task forces were the heart of Project activity. Each individual task force met three times, and twice the three task forces met together to review the preliminary drafts of this report and to react to the later version.

Project Materials

Three types of source material were utilized by the Project. These became known as the "soft data," the UNC-CH study, and the bibliography. A few comments on each are appropriate here.

The "Soft Data"

Several types of materials were identified and a "soft-data" gathering system was utilized in order to secure items already on hand in educational institutions where physical therapists and physical therapist assistants were being educated. Materials requested included: a list of clinical centers with which each educational program was affiliated, names of faculty, schedules of students' experiences, objectives of the clinical education program, criteria for selection of a clinical education site, and a variety of other items. An initial request was mailed to all educational programs in November 1974, and a follow-up request was mailed on December 11, 1974, five and a half weeks after the first mailing. It should be noted that the materials discussed in this report refer to the status of the institutions as they were in December 1974; some of those that were considered new programs at that time are now accredited.

The response rate from the 70 basic physical therapy programs, which included the certificate, the baccalaureate, and the masters degree programs, was excellent at 99 percent, or 69 programs located in 66 different educational institutions; 27 physical therapist assistant programs were in existence, and 92 percent (25) of them submitted materials; all 16 advanced masters degree programs responded to the request for materials. Although all educational programs did not submit materials on all topics, a wealth of information was made available for analysis. (For further detail on response patterns, see Table 1.1.)

The December 1974 follow-up request went to the educational programs in an effort to get close to 100 percent response to the request for the name and address of the educational administrator and the academic coordinator of clinical education (ACCE) as well as a complete mailing list of all agencies or institutions with which the educational institution affiliated for clinical education.

From the materials submitted by the educational institutions, over 1600 clinical centers were identified as affiliated with educational programs. The list was computerized, and added to, and duplicates were culled; a master list of 1671 clinical centers evolved from the continuing process of identification and clarification. In January 1975, the approximately 1600 clinical centers then on the master list received "soft-data" requests addressed to the directors of physical therapy services. The request was similar in nature to the one mailed to the educational administrators. It asked for existing materials related to clinical education, such as job descriptions, objectives of the clinical education program, evaluation forms utilized by the service, and student schedules. A great deal of information was obtained from 469 of the clinical centers, a 29 percent response. (See Table 1.1.)

Maps were developed to show geographic patterns. Some are from the clinical centers' viewpoint and show affiliations with educational institutions of different types. Others are from the educational programs' viewpoint and show affiliations with clinical education sites. A selection of maps constitutes Appendix C of this report.

The National Center for Health Statistics (NCHS) of the United States Public Health Service conducts an annual survey of hospitals (7,000), nursing homes, and certain "other" facilities (21,000) which include mental retardation resident centers, orphanages, homes for the blind and deaf, and others. The NCHS surveys for 1973 were made available to the Project and used for an analysis of the availability of clinical education sites and also as a cross-check of those clinical centers which are currently being utilized for clinical education in each state. The survey lists did not include community health agencies, group practices, private practices, voluntary health agencies, or other nonfixed-facility types of agencies. Six states were studied comprehensively in relation to the number of hospitals, nursing homes, and other health facilities available and affiliated with physical therapy educational programs. Only the survey of hospitals indicated the presence or absence of a physical therapy service. Therefore, the Project was unable to judge whether or not nursing homes and other facilities have or have not benefited from physical therapy services. Many probably have physical therapy on a contractual basis.

Still other materials utilized by the Project were generated by the task force members themselves during their deliberations; such information has become part of the minutes and permanent record of the Project on Clinical Education.

The UNC-CH Study

The scope of work set forth in the contract required that there be an analysis of the current status of physical therapy clinical faculty development and that pertinent information be obtained to identify the current properties of clinical education centers. In addition to the "soft data" collected from the aforementioned sources, the UNC-CH Division of Physical Therapy conducted a study of clinical education which generated further information for the Project. The task forces, consultants, and Project staff had input into the planning of this study, as well as access to its findings, which proved invaluable to the Project's work.

The UNC-CH study was a questionnaire survey financed by nonfederal funds secured primarily from the UNC-CH School of Medicine and the Division of Physical Therapy, Department of Medical Allied Health Professions; the parent institutions of two task force members, one hospital and one physical therapy educational program, also contributed to the funding. Five questionnaires were developed, pretested, revised, and distributed to five respondent groups with a cover letter signed by the Acting Director of the UNC-CH Division of Physical Therapy.

Questionnaire I of the UNC-CH study was mailed to 300 1974 graduates of various physical therapy programs; this was the "new graduates" respondent group. There was a total response of 137, of which 130 were utilized.

Questionnaire II requested descriptive data from the directors of physical therapy services in 400 clinical centers. This was the "clinical centers" respondent group. These clinical centers were selected from a 35 percent random sample taken from the computer list of over 1600 centers. The total response was 276, of which 250 were utilized.

Questionnaire III was mailed to 200 center coordinators of clinical education (CCCEs) selected from a 25 percent random sample pulled from the master list of clinical centers; it was a different sample than that used for Questionnaire II's mailing list. A total response of 136 CCCEs was received, 127 of which were utilized.

Questionnaire IV was sent to 200 clinical instructors (CIs) in clinical centers remaining after the 35 percent and the 25 percent samples had been pulled from the computer. A total response of 143 was obtained; 140 were utilized in the analysis.

In all, 800 questionnaires (II, III, and IV) were sent to individuals associated with 800 different clinical centers from the master list of 1671 centers.

Questionnaire V was mailed to a representative sample of 55 of the physical therapy educational program ACCEs, identified by type of program and region of the United States. An effort was made not to include those programs which had been asked for a list of their 1974 graduates, and no one who had pretested any of the questionnaires was approached.

For further detail on response to the UNC-CH study questionnaires, see Table 1.2.

Bibliography

Over 1100 journal articles, books, pamphlets, and reports were read as part of the Project activity. Of these, 740 were annotated for content; some 600 of the annotations were further refined for publication. In May 1976 the volume, Clinical Education in the Health Professions: An Annotated Bibliography, was published; copies are available from the APTA. (163)

The bibliographic research was extremely useful in progressing the work of the Project on Clinical Education, as the many references throughout the text of this report indicate.

THE FINAL REPORT

This report is organized in seven chapters covering the four topical areas of Project concern--the locale of clinical education, the faculty, the educational process, and evaluation--and ending with some considerations for the future.

Chapter 2 consists of Sections A, B, C, and D, which present the Project's conclusions and recommendations in the four areas. Chapter 3 discusses in some detail the characteristics of clinical education sites and the problems and opportunities in their utilization for physical therapy education. Chapter 4 is devoted to the characteristics and functions of clinical faculty and the potential for faculty development. Chapter 5 reviews current theory and the factors that influence learning in the clinical setting. The evaluation process in clinical education is the subject of Chapter 6, and Chapter 7 takes a look at the future.

The tables which are most relevant to the text appear together in an end section of the chapter in which they are referred to. Other tables appear in Appendix D, one of the five appendixes to this volume.

Appendix A is the list of references, already mentioned in the introductory note. Appendix B, which has its own list of references, is a separate document consisting of descriptive text on a set of proposed standards for a clinical education site, followed by an inventory as guide to their application. Appendix C features the maps, already referred to, and Appendix E comprises examples of evaluation methodology. There is a draft form for student assessment of the clinical center included as an example in Appendix B.

Table 1.1
"SOFT DATA" RESPONSE RATE

Type of respondent	Response rate* N	Response rate* %
Clinical centers (N=1671)	469	29
Basic physical therapy programs (N=70) (certificate, bachelors, and masters)	69	99
Physical therapist assistant programs (N=27)	25	92
Advanced graduate programs (N=16)	16	100
On a campus with a basic physical therapy program (N=14)	14	100
On a campus without a basic physical therapy program (N=2)	2	100
Developing programs (N=8)	6	75
All programs (116 of 121 programs responded)	116	96

Source: "Soft data," 1974

*Response rates were calculated by tallying all the educational programs that responded to any of 11 items. The response rates for individual items were not as high as the rates stated above and varied from item to item.

Table 1.2
UNC-CH STUDY RESPONSE RATE

Respondent group	Mailed	Delivered*	Used		Total Response	
	N	N	N	%**	N***	%****
NG						
Basic masters program	50	50	33	66.0	34	68.0
Certificate program	75	66	24	36.4	28	42.4
PTA program	75	65	28	43.1	28	43.1
Baccalaureate program	100	95	45	47.4	47	49.5
Total	300	276	130	47.1	137	49.6
CC (total)	400	398	250	62.8	276	69.4
CCCE (total)	200	199	127	63.8	136	68.3
CI (total)	200	199	140	70.3	143	71.9
ACCE						
Basic masters program	4	4	4	100.0	4	100.0
Certificate program	6	6	6	100.0	6	100.0
PTA program	12	12	11	91.7	11	91.7
Baccalaureate program	33	33	32	97.0	32	97.0
Total	55	55	53	96.4	53	96.4

Source: UNC-CH study, 1975

* Delivered = Number mailed minus number returned as undeliverable

** Percent used = $\frac{\text{Number used}}{\text{Number delivered}}$

*** Total response = All responses, whether or not they were too late to be computerized

**** Percent responding = $\frac{\text{Total response}}{\text{Number delivered}}$

Chapter 2

CONCLUSIONS AND RECOMMENDATIONS OF THE PROJECT ON CLINICAL EDUCATION

INTRODUCTION

Education in a health or helping profession such as physical therapy is designed to achieve the growth, development, and fulfillment of the individual student, while at the same time expanding that student's knowledge and instructing him/her in ways to utilize the knowledge for the public good.

The nature of the student as a learner, the nature and extent of the knowledge, and the needs of society should coalesce in a curriculum designed to meet the responsibilities of the profession of physical therapy. A basic concern of the Project on Clinical Education has been to determine if these components are effectively integrated in physical therapy education and how to strengthen the fabric of education in the clinical environment.

The deliberations of the task forces, a review of the literature, and data from various sources, including a University of North Carolina at Chapel Hill (UNC-CH) study, all contributed to the Project's four basic topical areas which emerged as the framework for meeting the above broad purposes and the specific charges in the contract.

The four topical areas are the clinical education site, the clinical faculty, the process of clinical education, and the evaluation process in clinical education. Highlights of the Project's conclusions and recommendations in each area are summarized here in Chapter 2 as Sections A, B, C, and D respectively.

A. THE CLINICAL EDUCATION SITE

The first charge set forth in the contract for the Project on Clinical Education was to establish guidelines for the selection of clinical education sites for students in physical therapy, a charge which includes describing the "current properties" of clinical centers with educational programs. A set of standards for a clinical education site in physical therapy was developed during the course of the Project's activity; these standards and guidelines for their use appear as Appendix B of this report. They are based not only on descriptive analysis of clinical education settings and curriculums, students, and the health care delivery system, but also on a review of social, educational, and other factors relevant in effective development and utilization of clinical education sites for physical therapy.

Chapter 3 presents and discusses in some detail the background materials from many sources that were available to the Project and formed the basis for development of the standards (Appendix B) and the conclusions and recommendations highlighted below. The text is organized to include educational placement, employment location, and the distribution of physical therapy manpower; the development of new clinical sites; the changing relationships of personnel; the possible benefits of regional or master planning in the development and utilization of available resources; and the effect of affirmative action legislation on the placement of students in clinical centers.

Physical Therapy Manpower Distribution

Recommendation: Studies should be made to determine factors influencing the first employment situation of new graduates.

It is an acknowledged fact that there is a maldistribution of health manpower in the United States. *(181)* Most studies deal with physician practice locations, but a few studies do indicate the severity of the maldistribution problem in physical therapy; among these is a study which indicates that 67 percent of Pennsylvania counties with populations under 25,000 have no physical therapists. The formula utilized in the Pennsylvania study considered the state's total number of practicing physical therapists, 964 in 1970, those counties with the highest number of persons per physical therapist (127,175) and those with the lowest (5,494). The authors then established an arbitrary ratio called "unfavorable" to describe counties where there were 30,000 or more persons per physical therapist. *(219)*

Some 1975 information is also available on North Carolina. Of the 389 physical therapists who reside and practice in the state, 229 practice in hospital settings and 264 in the more heavily populated, predominantly urban areas. Of the 100 counties in North Carolina, only 63 percent have physical therapists. Those without physical therapists are rural counties with low population figures. *(173)* Although data are not available from other states, it is believed that in most instances the Pennsylvania and North Carolina stories would be repeated.

The causes of maldistribution can be attributed in part to students' backgrounds and personal preferences as well as to the nature of their education. It should be noted that in one federal publication, Trends and Career Changes of College Students in the Health Fields, physical therapists, occupational therapists, and speech and hearing therapists were described as having little interest in succeeding in businesses of their own or of assuming administrative responsibilities; if this is true, this fact alone would affect the new graduate physical therapist's selection of sites of employment. *(226)* Studies indicate that a physician or dentist will tend to practice in a community that is similar in size and other features to the town in which he was raised. Proximity to family and friends and the quality of the public schools are frequent considerations. Recreational and cultural preferences may also figure in the decision of where to locate. *(063, 218)*

The UNC-CH study, referred to at the beginning of this chapter, determined that approximately 65 percent of practicing physical therapists and 70 percent of physical therapist assistants associated with clinical education are women; furthermore, most students are undergraduates. It is apparent that figures for M.D.s are not directly applicable since medical students are primarily male postbaccalaureate students. There are presently no studies which show the influencing factors for the practice location choices of the female physical therapy practitioners (married, single, divorced, or widowed); nor is there any study of the influences at work on the male physical therapy practitioners which affect their choice of practice location. These subjects are appropriate for future research.

Studies of medical school graduates indicate that fears of being isolated from colleagues, and from the complete medical facilities with which students practice, are factors in selection of practice locations. Concern is also expressed about locating in areas where physicians are few, where case loads are heavy, where relief for vacations or sick leave is sparse, and confinement to the practice is stultifying. *(204, 182)* How much these factors affect the location of physical therapy practitioners is not known.

Another aspect of manpower distribution is the educational setting the physician became accustomed to as a student. *(237)* With education occurring predominantly in large medical centers--where large staffs, the newest in equipment, and both acute and exotic cases are the order of the day--it is not difficult to see that the graduate might have second thoughts about moving from these professional supports to a small center where facilities are not available for the kinds of patients he or she treated as a student. *(204)*

As indicated by the findings of the UNC-CH study, the sites utilized for physical therapy clinical education are almost always the hospitals and rehabilitation centers of the United States. Of the 130 new graduates who responded to the UNC-CH questionnaires, 63 percent are employed in hospitals or rehabilitation centers. Only 22 percent of them are in all other types of settings, including pediatric centers. A few are in the military or are continuing as students. Of the new-graduate respondents, 40 percent reported that they had had only one clinical education assignment that was not in a medical center, a hospital, or a rehabilitation center; that assignment was identified most often as a center serving a pediatric population. Only 23 percent of the new graduates had any clinical education assignment other than in a hospital or rehabilitation center. Most physical therapy students have multiple affiliations, and it is easy to see that they continue to be educated in the hospital or acute-care environment, treating the horizontal patient in the majority of instances.

Different types of settings should be further utilized in physical therapy clinical education for students to learn how to function in a small service unit, or alone, or in community health agencies, public schools, small community hospitals, mental retardation centers, and a host of other places where physical therapy services are currently limited or nonexistent, and where the majority of the American public is requesting its health care. Few physical therapists have become interested in administration or supervision. The fact that few ever received instruction in these areas while in school can explain their hesitancy, if not fear, of accepting responsibilities which are normally a part of developing new community programs of physical therapy service. All these factors affecting manpower distribution should receive greater attention from clinicians and educators at all levels.

Development of Clinical Curriculums and Settings

Curriculum change, in both content and design, is constantly impressive yet disturbingly slow, a situation that is not unique to physical therapy. Medical education has been forced to change by consumer demand expressed in congressional legislation. Physical therapy and other allied health disciplines have had little impetus from this type of external force, which makes it particularly important that internal factors should motivate physical therapy educators to seek needed or desirable changes in curriculums.

Courageous action is needed to initiate and accelerate adjustments in the internal design of many phases of the curriculum--for our purposes in this Project report, those specifically affecting clinical education. It should not take 15 or 20 years for obsolete or static curriculums to feel the impact of major new directions in design, content, and delivery brought on by alert, well-informed faculty members. Changes brought on by intrinsic forces are preferable and more effective than those initiated by external forces, but where the first is lacking, the latter can be encouraged.

Recommendation: On-site visitors for educational accreditation purposes should examine closely for obsolescence in curriculums and for evidence indicating the need to expand the range and variety of clinical education sites and learning experiences.

New curriculums should be prevented or strongly discouraged from being implemented when they are based on old models that are obsolete in serving the student or the consumer of our services. Existing curriculums should be modified to meet current needs.

Recommendation: Termed appointments, subject to review and renewal, are recommended for educational administrators and directors of special components of the educational programs, such as clinical education and graduate studies.

Those associated with physical therapy education should continue to strive to be better informed of the current and future needs of society and more knowledgable about the most recent information on fundamentals of teaching and learning. Educators should use outside consultants from the field of physical therapy education, public health, and other disciplines, and should surround themselves with teachers and clinicians of all ages and educational backgrounds who have vision, courage, and innovative ideas.

Periodically, the opportunity for new vigor and enlightenment in education can be brought about by changes in leadership in key positions. The Project concluded that this can best be done by termed appointments, subject to review and renewal, of educational administrators and directors or chairmen of special educational units or committees. This recommendation is in keeping with recognized educational policies already in effect in other segments of the higher education community.

Innovative and creative programs and stimulating faculty members with vision do exist in physical therapy, but they are not present in sufficient numbers to meet the needs of increasing numbers of bright, well-motivated students. Additional highly qualified faculty members for physical therapy educational programs might be recruited and retained more easily if they saw greater promise of future positions of responsibility through the rotation of chairmanships of key educational committees and other opportunities. Some of the more progressive clinical education programs are now benefiting a limited number of students, but weaknesses in the fabric of much clinical education still persist.

Recommendation: Clinical faculty and students should be more involved in planning and implementing physical therapy curriculums, including all phases of clinical education.

The participative process has proved valuable in planning and implementing curriculums. To maximize the contribution to be derived from a broad range of educational and service interests, those receiving the education, and those physical therapists directing the activities of practitioners should be involved on a continuing basis in planning all aspects of the educational process. Clinical faculty and students should have rotating or termed appointments, subject to review and reappointment, on curriculum committees and task forces. A greater mix of persons with talents and interests might result, which would enrich both education and practice for longer periods of time. Curriculum committees should give attention to all of the factors that influence clinical education--on a year-to-year basis, on a term-by-term basis, and on an assignment-by-assignment basis.

Recommendation: The development of clinical centers should focus on greater utilization of existing centers, expansion of the learning experiences already available in those centers, and the development of new clinical sites.

In order to expand the breadth and depth of clinical experiences, there should be greater utilization of those clinical centers currently affiliated with educational institutions which are known to offer quality educational experiences. This can be effected by reassessing the timing of student assignments to the clinical center, making better use of the time afforded in the academic or calendar year. Many of those centers which are not utilized efficiently or are underutilized can reorganize their timetable and activities to accommodate increasing numbers of part-time or full-time students, as discussed in Chapter 3.

Many clinical centers have only one educational affiliation; opportunities exist for more contractual arrangements with educational institutions. More students can be assigned to those clinical centers which currently have a low student placement. This can be achieved partly by improving the quantity and variety of student learning experiences and by changing the ratio of students to staff wherever possible.

Learning experiences offered in existing centers can be expanded and diversified by recognizing and utilizing undeveloped opportunities. This should involve increased utilization of services in outpatient departments, in screening clinics, and at patients' bedsides, and reducing the dependence on one-to-one treatment situations.

There should and can be an increased opportunity for expanded learning experiences not related directly to patient care--activities associated with independent study, research, administration, teaching, consultation, and other skills desired for certain future careers as physical therapist or physical therapist assistant. These opportunities can be more clearly identified by studying the discrepancies between an educational program's educational objectives and learning experiences. Discernible gaps or weaknesses should be appropriately filled or corrected. A cross section of health care agencies can supply the diverse experiences needed by more students; students need not progress through these sites at the same rate nor receive identical experiences.

If we truly believe that physical therapy has important contributions to make to the health care delivery system, it is essential that more of our students benefit from the diversity and variety of agencies and patients available now to only a limited number. Information indicates that more resources are available than are being identified or utilized.

New clinical programs should be developed in institutions or areas of need, programs designed to strengthen the texture of education and to accommodate larger numbers of students in nontraditional settings and less-utilized institutions, for these are the entry points at which most Americans are entering the health care system and receiving care at primary, secondary, and tertiary levels.

Basic Factors in Site Development

The following factors, gleaned from all phases of this Project and discussed throughout Chapter 3, will influence the development of new clinical sites and the increased use of existing clinical centers.

1. A belief that physical therapy is an essential service in health care.
2. The vision of educators and practitioners.
3. The initiative of educators and practitioners.
4. The courage of educators and practitioners to change.
5. Political factors involving public and private agencies and institutions, other academic institutions, and governmental units.
6. Financial resources of the institutions or agencies for inauguration of a service unit.
7. Compatibility and differences in educational and service philosophies.
8. Availability of employment opportunities for graduates prepared to serve in selected situations.
9. Curriculum designs and proximity to sites.
10. The role of the physical therapist in some settings which may be different from the usually accepted and acknowledged role or function.
11. Legislation affecting the right to education.
12. Consumer rights to health care and related federal legislation.
13. Insurance coverage for services to be rendered.

Limiting Factors in Establishing a New Physical Therapy Service

There are many opportunities for the development of new clinical centers in agencies and institutions where there is no physical therapy service. The development of physical therapy services in these institutions, as identified from several sources during the course of this Project, may be hindered or prohibited by any of the following factors.

1. Physical therapy is not a priority service of the local program.
2. Medicine, nursing, social work, or another service may be dominant.
3. The agency has existed for a long period of time without a physical therapy service and does not recognize any need for one.
4. The agency or institution was unable to fill a staff vacancy for so many years that the position was abolished.
5. Physicians do not utilize physical therapy services enough to warrant staffing commitments.
6. The expanded role of the nurse practitioner, the physician's associate, or other health professional has usurped part of the role of the physical therapist.
7. Failure of the staff at the potential clinical education site, or even in the educational institution, to recognize the rewards and shared benefits which could accrue.
8. The center prefers continuous service for its clients and finds episodic student placements and/or the presence of physical therapy staff and practitioners on an intermittent basis unacceptable.
9. Financial resources are lacking for additional staff positions.
10. New types of programs are in a state of flux and insecurity.

Limiting Factors in Utilizing an Existing Physical Therapy Service

There has been little study made of the agencies or institutions which have physical therapy services but do not have educational programs. The Project concluded that the development of these services into clinical education sites may be hindered, prohibited, or influenced by a variety of factors.

1. The request has never been made.
2. Affiliation has never been considered by either the service or the center of which it is part.
3. Either the quality of the services or the administration is not acceptable to the educational institution.
4. The center was once affiliated but the contract was not renegotiated, for any of a variety of reasons.
5. There were unacceptable contract terms demanded by one of the parties.
6. Practitioners do not desire affiliations, for any of a variety of reasons.
7. The service commitment is not sufficiently developed in size to accommodate more than one or two students at a time; therefore it offers only limited utilization.
8. The center is available less than a full year, e.g., in the case of public schools.
9. Distance from the parent institution is too great for good liaison for either a part-time or full-time affiliation.
10. Affiliation at the center would prove too costly for the educational institution and the students.
11. Benefits of affiliating with an educational institution are not recognized by the clinical center.
12. Traveling time to reach selected types of out-of-hospital programs would usurp actual service time.

Changing Relationships in Clinical Education

Recommendation: Physical therapy professionals need to exercise more individual initiative to become active change agents in order to expand or develop clinical education or other types of service programs.

Major difficulties are encountered in the hesitancy of individuals to urge change in established relationships and programs. In efforts to maintain a calm or peaceful working relationship, or because of personal insecurity, many exercise undue caution in suggesting that modification might be beneficial in program format, content, and delivery of services. Practitioners may not consider it appropriate to approach educators, in a one-to-one relationship, to discuss concerns; educators may likewise be hesitant to speak forthrightly with practitioners to suggest or recommend new services, opportunities, or approaches in delivering care. Sometimes uncomplimentary and nonconstructive suggestions may come from speakers or appear in articles or letters to the editor in the local press. Often these just produce defensive reactions, when perhaps the most appropriate or constructive approach would be to initiate personal dialogue with concerned individuals.

The responsibility for urging change should be shared equally, not only by educational administrators and directors of physical therapy services, but by every practitioner and educator who has concerns and suggestions to express. Constructive leadership is the obligation of all professionals regardless of their status. Appropriate mechanisms should be explored and utilized in order that all in physical therapy participate in needed changes. The Project task force members felt strongly about the recommendation made in this area.

The following guidelines are intended to suggest possible processes by which those in all areas of physical therapy activity can become individual agents of change. These comments are directed to individual faculty members, educational administrators, practitioners, and directors of physical therapy services. Input from the student is not neglected, and methods of dramatizing innovative programs are offered.

Educators and Practitioners

Educational administrators and faculty members can initiate activity that will bring about changed relationships with directors of physical therapy services and practitioners. Existing relationships can be modified or strengthened in several ways.

1. Offering faculty time and personal services.
2. Visiting the clinical centers regularly and informally, especially those developing programs in new areas of service and those which have no current educational commitment to basic education.
3. Involving practitioners, not only alumni, in the work of the educational programs--admissions, curriculum design, continuing education, research, teaching, and planning.
4. Inviting staff of the clinical center to continuing education programs and supervisors meetings sponsored by the educational institution, regardless of their degree of involvement in educational programs.
5. Accepting non-physical therapy clinical instructors--public health nurses, social workers, institutional administrators, researchers, and directors of patient education centers.

Educational Administrators and Faculty Members

Faculty members should be encouraged to accept different types of learning experiences for students in existing clinical education centers and in new clinical settings. It is the responsibility of the educational administrator to offer primary leadership in this regard, but any alert faculty member, individually or with the members of the clinical education committee, can introduce new approaches to existing programs by recommending:

1. Inservice education programs, including visiting speakers.
2. Literature reviews.
3. Circulation of new literature or other informational materials.
4. Routine rotation of committee assignments and job responsibilities among faculty and staff.
5. Individual faculty input into the agendas of regular faculty meetings.

The utilization of some of a variety of approaches can encourage faculty members to change their attitudes about their own roles--to see their activities expanded to include a combination of service, teaching, consultation, and research. Faculty members should be encouraged to serve as consultants to clinical programs (they must first earn that role) and to serve as planners and participants in continuing education programs for practitioners, especially those not routinely reached by most offerings or courses. In addition, they should be urged to exercise more leadership initiative in developing service programs.

Practitioners and Educators

Under the leadership of directors of physical therapy services or imaginative staff members, changes in roles and activities, similar to those described above, should take place. Practitioners can encourage acceptance by other clinicians of different learning experiences for the clinical education of students. The same devices suggested above for use by the faculty members can be utilized.

Staff members should be encouraged to change old attitudes on the role of the clinician, to regard the clinician as an educator and researcher as well as a practitioner. Educational administrators should be encouraged by the directors of physical therapy services to select members of the service staff who have special expertise or interest to function as consultants or part-time faculty, or as participants in continuing education programs, either at the educational institution or sponsored by it. Practitioners should be willing to serve on committees at educational institutions in order to influence the structure of educational programs, and they should exercise more initiative and leadership in identifying unmet physical therapy service needs to educators.

Both educators and practitioners can help to stimulate desirable change by dramatizing innovations in clinical settings and educational experiences. Speeches at educational chapter or district meetings of professional associations, publications in newsletters and journals, and newspaper articles (e.g., highlighting students on unique assignments) can communicate the message.

Student Input

The student may also be a change agent and may initiate the development of a new clinical education site based on conviction that a segment of society needs additional physical therapy services, or because of a special interest in an aspect of physical therapy service not currently available for clinical education placement. The student might identify a specific clinical center, institution, or agency which is not currently contracted to the parent educational institution. Once the desired clinical center has been identified by the student to the academic coordinator of clinical education (ACCE), the responsibility for initiation of contacts and developing relationships and agreements, as well as assignments, rests solely with the ACCE, not with the student.

Planning Needs for Clinical Center Utilization

Recommendation: Regional or master planning for the utilization of clinical education sites should be studied and a pilot project implemented.

While many educators are bemoaning the shortage of adequate clinical centers for the education of students, several situations exist which contradict their contention about shortages. As shown in Table 3.5 in Chapter 3, more than 60 percent of the more than 1600 clinical centers which assist in educating students are affiliated with only one educational institution; fewer than 3 percent are affiliated with more than six educational institutions. Large numbers of affiliated clinical centers receive students only during periods of less than four months of the year; in a few of the centers, students are accommodated during eight months or more a year. Four students, or fewer, are usually accommodated by the clinical centers at any one time.

Only 15 percent of the hospitals of all sizes in a sample of states which the National Center for Health Statistics has identified as having physical therapy services are utilized as clinical education sites. The others do not participate in clinical educational activities, due perhaps to lack of initiative, lack of interest, quality of program or staff, or other unknown factors. Hundreds more do not even have physical therapy services. Only a few nursing homes and specialty hospitals, such as centers for the mentally retarded and for the blind and deaf, are affiliated with physical therapy programs. As for private practitioners, sports medicine programs, and community health programs in urban or rural areas, only a few have physical therapy student programs. Educators report inadequate clinical education development at these sites, as well as those for general pediatric experience. Clinicians and educators alike can initiate activity in any one of these areas of need. Perhaps greater and faster gains can be made by coordinated group activity at a state or regional level to help alleviate the deficiencies.

Initiating the Planning Activity

The following approach is recommended by the Project on Clinical Education. The officers of the Section for Education of the American Physical Therapy Association (APTA) should assume the responsibility for initiating a regional or master plan for the utilization of clinical centers; one academic coordinator of clinical education (ACCE) and one center coordinator of clinical education (CCCE) from each of the regions of the Section should be appointed to an original task force. This task force should be charged with gathering information and designing the methodology for meeting the objectives as listed in this report. Once the methodology has been determined, the original task force should then dissolve in favor of regional or state planning committees.

The regional or state planning committee should consist of ACCEs and key CCCEs from both large and small centers. If a regional health service agency or an area health education center exists in the state or region, representatives from those programs should be invited to participate in the discussions. Physical therapists who have developed services in areas of need should be included as special consultants.

Objectives of a Regional Planning Committee

These should include:

1. Better utilization of clinical centers that are currently affiliated with educational programs for physical therapy students.
2. Elimination or substantial reduction of the competition between educational institutions and clinical centers for placement of students.
3. Identification of the common needs of the various academic programs for different types of clinical centers, such as those in pediatrics, public health, rural health, and the public schools.
4. Identification of alternative sites for clinical education, e.g., areas where people are underserved and need exists for a broad range of programs.
5. Joint planning in developing clinical education centers needed in rural areas, urban ghettos, psychiatric centers, public schools, chronic disease hospitals, and private practices as well as in hospitals, nursing homes, and other health facilities where no students are currently affiliated for educational purposes.
6. Expansion of learning opportunities within the clinical centers where affiliations already exist.
7. Exploration of the possibility of a regional resource center for reprints, audiovisuals, and books which would help stimulate clinical staff in locations where access to library facilities is limited (including the identification of interlibrary loan possibilities and the development of a reprint loan file or audiovisual materials).
8. Establishment of consultation services or a plan for staff from university or college centers to visit regularly in underdeveloped areas where few physical therapists are functioning and where needs for clinical education are great.

Implementation Activities

The planning committee should:

1. Design and distribute a master calendar for clinical education based on the schedules for placement of part-time and full-time students, the number of students involved, and the list of clinical centers affiliated with educational programs.
2. Prepare a master list of all affiliated clinical centers in the state or region, the months they reserve for student assignments, the number of students they are currently accommodating, and the largest number of students they could accommodate during any one time period.
3. Identify the clinical centers which appear underutilized.
4. Study materials from the National Center for Health Statistics on the facilities in the region to note nonutilization of hospitals, nursing homes, and other health care facilities, and those known to have physical therapy services as well as those with no physical therapy services.
5. Identify areas that need clinical centers and plan strategies to explore how to develop programs in those areas, e.g., in the mountains and other rural areas, migrant labor camps, public schools, early intervention programs, screening programs, local health clinics, group medical practices, and sports medicine programs.

6. Determine why in some centers clinical education programs do not exist or are underutilized (or the agency is unwilling to have a student program).
7. Appoint task forces to work toward development of new sites in specific areas of need.
8. Investigate the learning experiences and internal design of clinical education experiences in clinical centers already under contract in an effort to identify untapped or underutilized learning experiences in outpatient clinics, home-care programs, neonatal programs, cardiovascular programs, administration assignments, teaching assignments, and other types of needed learning opportunities.
9. Facilitate an exchange of staff from clinical centers to academic institutions, and a reverse assignment, in order to increase the appreciation of clinicians for the academicians' work and the appreciation and knowledge of the faculty members for the work of the clinicians. Continuing education experiences could also be provided and other rewards, as discussed in Section B of the present chapter.

Affirmative Action in Clinical Education

Recommendation: The selection of clinical centers for student assignments should be studied with respect to affirmative action legislation. Guidelines should be prepared for use by academic coordinators of clinical education and center coordinators of clinical education.

Although there is currently no material on affirmative action in the physical therapy, nursing, or medical education literature, it is obvious that implementation of affirmative action programs by colleges, universities, health agencies, and institutions has complex ramifications for those responsible for the clinical portion of the educational process. The lack of published material should not be construed to mean that physical therapists do not have a commitment to the intent of affirmative action legislation.

In the 60s and 70s, federal legislation was enacted in response to the demand in several areas for equal opportunity. Particularly important are the Civil Rights Act of 1964, the Equal Opportunity Act of 1972, the Higher Education Act of 1972, and Executive Order 11246 as amended by Executive Order 11374. Executive Order 11246 embodies the two major concepts which explain much of the intent of equal opportunity legislation--nondiscrimination and affirmative action. Most programs on college and university campuses are designed to comply with these concepts under regulations administered by what is generally referred to as an institution's affirmative action program.

The ACCE should be familiar with this federal legislation and the educational institution's program of compliance. The ACCE should disseminate this information, and conduct group workshops or individual meetings with all directors of physical therapy services and CCCEs. The ACCE should insure that all cooperating clinical centers do not knowingly discriminate on the basis of sex, race, color, religion, or national origin, either for their staff personnel or student acceptance and assignments.

New contracts should be carefully designed, and old ones reviewed, to prevent or eliminate any elements of unequal opportunity or discrimination. Some common practices which might be interpreted as discriminatory are instances where facilities house female students but not male students, or where the work schedule of a physical therapy service conflicts with a student's religious observances. The ACCE should make certain that there are no unequal or restrictive learning experiences for any individual or group of students, and should also scrutinize each student's evaluations from the clinical center to ascertain if there has been fairness on the basis of the student's sex, race, and marital status.

A Final Word

This concludes the highlights on the clinical education site, as they emerged throughout the Project on Clinical Education in Physical Therapy. A detailed discussion of the subject matter appears in Chapter 3, and relevant tables appear in Appendix D. The Project developed a number of maps that are of particular interest in considering the utilization patterns of clinical centers; Appendix C features the maps. As mentioned at the beginning of this section, the Standards for a Clinical Education Site, along with guidelines for their use, are presented in Appendix B.

B. THE CLINICAL FACULTY

The work of the task forces, review of the literature, and study of the "soft data" and the results of the UNC-CH study have led to one basic conclusion of the Project on Clinical Education. It is that there should be identifiable and well-qualified clinical faculty in physical therapy who have unique responsibilities and special expertise which all practitioners cannot be expected to possess simply because they are clinicians. This premise is the basis for the recommendations included here in Section B.

Recommendations generally applicable to all clinical faculty members appear first. Following these are recommendations specifically applicable to clinical faculty members who are the academic coordinator of clinical education (ACCE), the center coordinator of clinical education (CCCE), and the clinical instructor (CI). Guidelines for a clinical faculty development plan are then set forth, and the section ends with a summary of Project conclusions on rewards and incentives.

All Clinical Faculty

Recommendation: All clinical faculty members should have the responsibilities, characteristics, and functions enumerated below:

1. They should be interested in and committed to clinical education. Sensitivity, flexibility, enthusiasm, and respect for each other and their students should be evident in their work.
2. They should have knowledge and skills in the areas of counseling, communication, and interpersonal relations.
3. They should be aware of the concept of "role model" and understand its implications in clinical education.
4. They should be actively involved in continuing education as both teachers and learners.
5. They should all be involved in planning for clinical education; this includes:
    a. Delineating in writing objectives for a variety of learning experiences.
    b. Organizing activities to accomplish those objectives.
    c. Identifying experiences unique to each center which may broaden or change the clinical education program at that center.
6. They should each be involved in a multifaceted process for evaluation of the clinical education program, as discussed in Section D of this chapter. This includes evaluation of the student, the CI, the CCCE, the ACCE, the clinical learning experiences, the clinical center, and

the entire clinical education program. All clinical faculty should be involved in each phase, and self-evaluation is a significant part of the process for each clinical faculty member.

Recommendation: Each clinical faculty member should have a job description which reflects the actual duties, functions, and authority of the position.

A job description should accurately describe the duties and authority of each clinical faculty member. Time allotments for the various functions and the interrelationships of personnel should also be described. The job description should be shared with other personnel as one means of clarifying job responsibilities. Before an individual is employed, he or she should review the job description for the position to comprehend the scope of responsibilities in the position. Clinical faculty should review their job descriptions annually as a means of updating the document and reviewing their performance.

Recommendation: All clinical faculty members should be assured of recognition and administrative support for their clinical education activities.

The clinical faculty member has several areas of responsibility. He or she is not generally hired solely for duties associated with clinical education. The ACCE may be the only person with primary job responsibility in clinical education in the educational institution, but even the ACCE often has other functions. The variety of duties and functions must be recognized by the administration of both the physical therapy service and the clinical center as a whole, and allowances must be made to assist the clinical faculty member in performing duties. This is especially evident at the clinical education site where the primary function is seldom educational.

Time must be scheduled for the clinical faculty to plan learning experiences, schedule students, attend faculty meetings and short courses (or other continuing education programs), and to counsel with students. These activities are not always considered a part of the duties of clinical center employees and are often not planned for by it. Since the time is not allotted for these activities, they are either done hurriedly, overlooked, or done after hours. None of these alternatives is desirable.

A financial commitment to clinical education is also indicative of administrative support. This could take the form of funding for continuing education or purchasing educational supplies for the faculty to use with the students (see also the discussion of rewards on page 2-25).

Recommendation: All clinical faculty members should be knowledgable about the educational program and its objectives.

The clinical education curriculum should be designed around a set of objectives. The importance of insuring that everyone know these objectives cannot be stressed too strongly. There must be agreement about the reason for a student's presence in the clinical education center. Without this understanding, the student will be caught in a confusing mix of unrelated experiences, and valuable time will be wasted. The faculty from the educational program must take the responsibility of disseminating the objectives of each learning experience, and input into setting those objectives should be solicited from the student and the center.

The ACCE

Recommendation: The main function of the ACCE should be to provide comprehensive planning and direction for clinical education.

The ACCE is considered a member of the clinical faculty and is the coordinator of the entire clinical education phase of the curriculum. In that capacity the ACCE has many responsibilities including but not limited to the following:

1. Maintain and develop interagency relationships and liaison between the academic institution and the clinical center.
2. Coordinate regional planning for clinical education with other ACCEs and CCCEs.
3. Plan and implement the clinical education curriculum.
4. Develop both the administrative and educational roles of the ACCE.
5. Coordinate and/or develop the evaluation process for the entire program of clinical education for the educational institution.
6. Support and assist other clinical faculty members in performing their clinical education responsibilities.
7. Assess the need for continuing education for the clinical faculty and plan programs to meet those needs (both for the group and for individuals).
8. Maintain current, up-to-date records pertinent to clinical education including the following:
    a. Clinical center and clinical faculty evaluations and reassessments.
    b. Contracts between educational institution and clinical center.
    c. Background data on clinical center for use by students in choosing clinical education centers.
    d. Utilization of clinical centers by students.
    e. Plans for and activities in clinical faculty and clinical center development.
    f. Correspondence related to clinical education responsibilities.

Recommendation: The ACCE should have had experience as either a CCCE or a CI (preferably both).

Experience as a CCCE or a CI is a recommended qualification for the ACCE. Many of the duties and responsibilities of the ACCE are directly related to the CCCE and CI and their unique potentials and problems. Without previous experience as a CCCE or CI, the ACCE would have difficulty identifying with members of this group and would almost assuredly lose some degree of credibility with them, which would tend to make the ACCE's functioning, already difficult and complex, less effective and more difficult.

Recommendation: The ACCE should have an advanced degree with advanced preparation in the areas of education, counseling, administration, and interpersonal communication.

The functions of the ACCE are varied and require many areas of special preparation. The examples of functions enumerated in the first recommendation for the ACCE suggest the many talents required. In order to carry out the responsibilities effectively, advanced preparation seems mandatory. A background in education is useful for planning and developing both the student clinical education program and the clinical faculty development program. Counseling skills and experience are helpful in dealings with students and clinical faculty members. Administrative background is essential in the areas of program planning, contract negotiation, development of new clinical centers, and general coordination of the entire clinical education phase of the curriculum.

Communication is the crux of the success of the ACCE in the clinical education program, for virtually everything this person does requires communication with someone or some group. If the two-way flow of information is stopped or impeded at any point in the process, the program may suffer. The ACCE must be able to evaluate a person, student or instructor, identify weaknesses, develop a plan to overcome those weaknesses, and motivate that individual to follow through on the plan. To accomplish these tasks, particularly in view of the high degree of threat they may imply, a great deal of skill in interpersonal communication is required. The Project task forces felt very strongly about the importance of free, two-way communication, recommending a direct relationship between the ACCE and the CI, of course with the CCCE's knowledge.

Recommendation: The ACCE should provide feedback obtained through the clinical education evaluation process to the academic faculty, the clinical center staff, and the student.

The evaluation process serves no useful purpose if the results of the evaluation are not made known and utilized to benefit the people and the program. The responsibility for collecting, disseminating, and interpreting the results of the various evaluations that are performed belongs with the ACCE. Summaries of the evaluations of and by the clinical center or the clinical faculty, as well as the student, should be prepared at appropriate times (e.g., end of semester or quarter, end of affiliation, annually) and sent to the evaluatee.

The results of the evaluations can then be utilized in the many ways discussed in Section D of this chapter and in Chapter 6.

Recommendation: The ACCE should maintain clinical skills and an awareness of the current trends in physical therapy.

The ACCE is responsible for developing a clinical education plan which will prepare students to practice physical therapy. In order to do this the ACCE must have an accurate, up-to-date view of the field of physical therapy. Awareness of current trends in physical therapy has a direct influence on the ability of an individual to devise a program to prepare future practitioners. Clinical skills must also be kept up-do-date.

The CCCE

Recommendation: The main function of the CCCE should be the development and coordination of clinical education at the clinical education site.

The CCCE has the main responsibility for the clinical education activities at the clinical center. Many varied duties are involved in that function. These include, but are not limited to, the following:

1. Having the authority (delegated from the Director of the Physical Therapy Service) as well as the responsibility for clinical education.
2. Developing and/or maintaining liaison with academic institution(s).
3. Separating and developing the educational and administrative responsibilities of clinical education for the CCCE and the CIs.
4. Delegating responsibilities for clinical education to those persons who are most interested, willing, and able to function in the needed roles. One person does not need to fulfill all roles, but one person must be responsible for all roles. Appropriate responsibilities should be delegated to the CI.
5. Providing overall supervision of the student in clinical education activities, including assigning the student to the CI, arranging patient care and other experiences for the student, and arranging physical therapy and other experiences for the student.
6. Supervising CIs in clinical education activities.
7. Either designing or implementing a program of faculty development for the center or assisting the ACCE in implementing a master plan designed at the educational institution.
8. Identifying and developing, with the ACCE and the CI, learning experiences appropriate for the clinical center and the students.

9. Assisting in recruiting, orienting, and training the CI in the clinical education aspects of the position. This is a particularly important function of the CCCE. The CI must receive some special introduction to the program of clinical education at the clinical center. The educational objectives, special procedures that the student must follow, constraints or allowances specifically applicable to the student, and any other idiosyncracies of the clinical center must be known by the CI. The CCCE is the individual responsible for conducting the orientation.

Recommendation: The CCCE need not have an advanced degree, although one is desirable. Self-improvement through continuing education is recommended, and competencies in the areas of administration, clinical education, diverse types of patient care, and supervision should have been demonstrated.

The responsibilities of the CCCE demand diverse talents. These can be obtained through experience, independent study, higher education, and continuing education. Competencies in the basic areas of administration, patient care, clinical education, and supervision appear to be the foundation for the CCCE's functioning.

In addition to these areas of competency, the CCCE should exhibit the characteristics of tact, organizational skill, and good interpersonal communications. These characteristics should facilitate execution of the responsibilities of the CCCE.

The CI

Recommendation: The main clinical education function of the CI should be the instruction and supervision of students in the clinical education experience.

The clinical education experience "occurs" between the student and the CI. The main function of the CI in the relationship is the instruction and supervision of the student. To create optimal learning experiences the CI should allow the student the freedom to explore a variety of experiences in addition to patient care, create an atmosphere in which ideas can be explored and questions asked, provide immediate feedback to the student about performance, and confer with the student regularly.

In all of the dealings with the student, the CI should be aware of the learning processes which are occurring (see Section C of this chapter and Chapter 5).

Recommendation: The CI should be a qualified professional with at least one year of experience, including some supervisory and teaching experience.

Many of the skills required of a CI can be acquired through experience. Some persons with less than the recommended one year of experience may also exhibit the necessary abilities and should not be overlooked simply because of a current lack of experience. Often the benefit of a fresh, enthusiastic outlook can be more beneficial than any amount of experience. It should also be noted that experience, of itself, assures nothing in the way of special skills or characteristics.

The CI should exhibit a positive attitude, an openness to suggestions and questions, and a willingness to share information with others. Since the CI will be functioning as a role model in the clinical setting, he or she should also be a good clinician. The CI should be committed to self-improvement through continuing education or advanced study.

Recommendation: An orientation and training program for the educational responsibilities of the position of CI should be developed and all CIs should participate in it.

Generally, a practitioner is not well prepared, at least not in any formal way, for the role of a CI. Since the role of the CI in the process of clinical education is so important and the individual is being asked to function outside the areas of his or her primary training, it is essential that orientation and training activities be provided and that they are taken advantage of. This program should contain the educational principles upon which clinical education is based and the specific objectives of the program of clinical education to be addressed at that specific clinical center. Any "house rules" or practices particularly pertinent to that center should also be presented.

Clinical Faculty Development

One charge in the contract for the Project on Clinical Education was to prepare guidelines for development of current and future clinical faculty. The recommendations and conclusions presented here satisfy that charge in part, but program-design considerations are also relevant; these are discussed in Section C of the present chapter and in Chapter 5, which deal with the process of clinical education. The basic tenets of program design remain the same whether the program is designed for physical therapy students or clinical faculty in physical therapy. To avoid redundancy, the Project's conclusions and recommendations related to program design and development and included in Section C are not repeated here. The reader is urged, however, to consult that section.

Recommendation: There should be a jointly organized plan of faculty development and improvement, based on sound principles of continuing education and adult learning, and designed to meet the needs of academic and clinical programs and of the individuals involved.

The purpose of clinical faculty development in physical therapy is to improve the existing clinical faculty, to develop new clinical faculty, and to identify and encourage practitioners to become clinical faculty members. The underlying assumption of that statement is that improving the clinical faculty will improve the educational process in which the students are involved--ultimately, therefore, improving patient care.

Objectives for Clinical Faculty Development Programs

1. Purpose of having objectives: Objectives are utilized in designing and developing the clinical faculty development program, determining the teaching methods to be used, and assessing both the program and the learner, the clinical faculty member.

2. Sources of objectives: Objectives can be identified by either the planner or the learner involved in the program. Ideally both of them are involved in the planning and objective-setting process. These individuals can utilize several different means to identify objectives, including impressions, information, and data abstracted from:

   a. Medical record reviews.
   b. Interviews.
   c. Observation.
   d. Surveys.
   e. Requests from the target population for topics to be covered.
   f. Self-assessment.
   g. Patient care audits.

   All of the above can be utilized either on an informal or a formal basis. For instance, a survey can be carried out by a formal, well-developed questionnaire or simply by feedback from group discussions with the clinical faculty for whom the program is to be developed.

3. Content of objectives for faculty development programs: Several areas of expertise have been identified as important for the clinical faculty. Logically these are the areas that a faculty development program should concentrate on. These areas include:

   a. Communication skills (including counseling and guidance).
   b. Educational theory (learning theory and teaching methods).
   c. Administrative skills (including planning and supervision).
   d. Interpersonal relations.
   e. Group process.
   f. Physical therapy theory and practice.
   g. Handling student failure.
   h. Health care planning and delivery.
   i. Psychology and sociology.
   j. Unique aspects of clinical education.

Learning Experiences for Clinical Faculty Development Programs

The Handbook for Physical Therapy Teachers states that a learning experience involves "a learner, an objective for the learner, a situation devised to produce a response that contributes to the objective, a response by the student, and reinforcement to encourage the desired response." (077)

1. Identification of learning experiences: The following remarks regarding the adult learner should be kept in mind when identifying learning experiences for a clinical faculty development program.

a. The learner must have an opportunity to practice desired behaviors. (155)

b. The learner must have access to appropriate learning materials. (155)

c. The learner must be actively involved in the learning process. Techniques stressing active participation of the learner include:

    i. Small group work.
    ii. Participation in developing a tool.
    iii. Use of simulations.
    iv. Teaching what has been learned to someone else.
    v. Working with students.
    vi. Developing case studies.
    vii. Use of self-instructional materials.
    viii. Self-evaluation.
    ix. Games, role playing.
    x. Practice.
    xi. Observation followed by discussion.
    xii. Computer-assisted instruction.

   The technique of instruction utilized should, of course, be compatible with the objective of the experience and the learning style of the participant.

2. Selection and sequencing of learning experiences: When organizing a clinical faculty development program the following principles can be helpful: (155)

   a. Learners must be motivated to change their behavior, when change is desirable.
   b. Learners must be aware of the inadequacies, if any, of their present behavior.
   c. Learners must have a clear picture of what desirable behavior to adopt.
   d. Learners must have an opportunity to practice that desirable behavior.
   e. Correct behavior must be reinforced.
   f. Appropriate teaching materials must be available.
   g. Learners must be actively involved in the learning process.

Implementation of Clinical Faculty Development Programs

1. Clinical faculty development programs should be presented in the form of inservice education programs, workshops, or continuing education programs that last less than five days and have a minimum of ten contact hours. This does not negate the important role occupied by independent activities such as reading journals, utilizing library resources, and completing self-instructional materials in a well-planned program of faculty development. Formal graduate education is still another component.

Clinical faculty development programs should be open to all current clinical faculty as well as practitioners who are not involved in clinical education. By opening programs as well as other clinical education activities to nonclinical faculty practitioners, a larger pool of interested persons may be developed.

2. Faculty development programs should be available from several sources, including the educational institutions, the clinical education center, the Section for Education, the APTA (national,chapter, and district levels), and other national professional organizations.

3. Programs for clinical faculty development should award continuing education units (CEUs).

4. Clinical faculty members must be allowed time to develop their clinical education skills. Practitioners who are not clinical faculty members should be encouraged to learn about clinical education.

5. Funds should be provided from either the educational program or the clinical center for clinical faculty development activities.

6. Regional and/or national planning could provide efficient use of resources for the purposes of faculty development. This planning could logically be the responsibility of the Section for Education of the APTA.

Evaluation in Clinical Faculty Development Programs

Evaluation of the program of faculty development should be an integral part of the design of that program and can be utilized to determine objectives for future programs, to evaluate participants (before the program, immediately after the program, or at a longer follow-up interval), and to provide the instructor and program-planner feedback on their performance and the effectiveness of the program.

Responsibility for Clinical Faculty Development

Clinical faculty development is a joint responsibility of all persons or groups involved in clinical education--the educational program, the clinical education center, and the individual clinical faculty members. The ACCE and CCCE should assume the responsibility for organizing and coordinating continuing education opportunities for the actual and prospective clinical faculty members. The responsibility for attendance, however, remains with the individual faculty member. Included in the responsibility for continuing education is the responsibility for continually assessing one's own level of functioning. This process of self-assessment can serve two important purposes--identifying an individual's strengths and weaknesses and, more importantly, increasing the commitment to the entire process of continuing education.

Recruitment of New Clinical Faculty

A conscious effort should be made by all clinical faculty members to recruit new clinical faculty members. This can be done by inviting practitioners to participate not only in the clinical faculty development programs but also in the planning phases of the clinical education program.

Rewards and Incentives

The large increase in the number of clinical education sites over the past few years has increased the clinical faculty's awareness of the costs and rewards of clinical education. Identification and acknowledgement of the costs has led to a need for an increased commitment to providing both tangible and intangible rewards to the clinical education center and clinical education faculty. The Project on Clinical Education's recommendation and conclusions on rewards and incentives appear below.

Recommendation: The educational program and the clinical center should negotiate the benefits that the center and its staff will receive. The educational program should accept its responsibility to provide the clinical education center and its staff tangible rewards for their participation in the clinical education program.

The rewards are intended to recognize good performance and provide thanks as well as offset the disadvantages and difficulties the clinical center encounters in participating in the clinical education program (e.g., lack of staff privacy, loss of patient contact, loss of time). Tangible rewards for clinical education to either the clinical faculty or the clinical center may include free continuing education programs, tuition rebates for formal coursework, faculty consultation to the clinical center, travel costs to meetings, academic appointments and privileges, use of the campus facilities of the educational programs, loan of equipment from the educational program, interlibrary loan privileges, research assistance, salary increase due to increased job responsibilities, increased departmental income from student services, improved services attributable to student input, recruitment and hiring benefits to the center, and coverage for vacation and sick leave by academic faculty. Direct monetary reimbursement to either the clinical center or the clinical faculty member for their involvement in clinical education is not encouraged.

Tangible rewards are not the only positive aspect of the clinical center's involvement in clinical education. The intangible rewards of personal enjoyment, satisfaction, intellectual stimulation, prestige, personal and professional growth, and improved staff morale are highly valued by the clinical faculty.

A discussion of the rewards the educational program will provide for a clinical center should be encouraged for improved understanding during the initial contract negotiations. The results of those discussions should then be included as part of the contract between the clinical education center and the educational program.

The clinical faculty and the clinical center are not the only recipients of the rewards of clinical education. The educational program is benefited in several ways by the clinical education program. It receives feedback from the clinical center regarding the relevance of the curriculum and the effectiveness of instruction. The availability of clinical faculty to present various classroom materials serves to mesh the academic and clinical aspects of physical therapy. The clinical education program also gives the academic faculty a means of identifying potential new academic faculty members.

The student is also benefited by the clinical education program. Clinical education provides an opportunity to explore and develop skills learned in the classroom, to increase self-confidence, to observe a role model, and to be recruited for employment.

The consumer is the ultimate recipient of the rewards of the clinical education program. Health care is improved by the stimulus that the students offer the staff and the contact that the clinical staff members have with the people and resources of the educational institutions. The physical therapy practitioners who participate in clinical education will also be providing better patient care because of the clinical education program.

A Final Word

This completes the highlights of Project conclusions and recommendations on the clinical faculty in physical therapy, their roles and responsibilities, and rewards and incentives. The guidelines for a clinical faculty development plan, presented in the preceding pages, can best be studied in relation to the following Section C on the clinical education process.

C. THE PROCESS OF CLINICAL EDUCATION

The text of Chapter 5, also entitled "The Process of Clinical Education," is the source of the Project's conclusions and recommendations presented here. This topic was not a requirement under the contract. The Project task force members, however, decided that the other charges could not be met unless the basic processes which occur in clinical education were described. Guidelines for clinical faculty development programs (see Section B preceding) could not be recommended unless the roles of the clinical faculty in the clinical education process were known; criteria for clinical education site selection (see Section A preceding) depend on the functions the site fulfills in the clinical education process. At the urging of the task force members, therefore, the process of clinical education subject matter was developed. It is based largely on the literature in education, allied health, and physical therapy, and on the task force deliberations. Relevant information from the "soft data" and the UNC-CH study was also examined.

The Project on Clinical Education reached the basic conclusion that educational principles apply in the process of clinical education, but they are not utilized to the extent that they should be in planning clinical education learning experiences. For the basic principles to be utilized, the clinical faculty must first be knowledgable about what they are and how to use them. The recommendations that follow attempt to present the major components of the process of clinical education in a form the clinical faculty can use.

The Role of Objectives

Recommendation: The objectives of the clinical education program should reflect the philosophy of the entire educational program as developed by the faculty (clinical and academic).

The philosophy of an overall educational program should have input from and should be supported by both the clinical and academic faculties. The objectives of the clinical education phase of a program should clearly reflect that philosophy. Not only must each objective support the overall philosophy, but all of the objectives together must satisfy the needs of the total educational program. For example, if the philosophy of the program states that health care should be available where and when it is needed, the clinical education learning experiences should not be limited to one type of clinical education site.

Recommendation: Clinical education learning experiences should have precise objectives which will be utilized in planning for those experiences.

Learning experiences cannot be effectively developed without reference to specific objectives. The first step is identification of what is to be accomplished in a particular learning experience, and this identification is done through the process of determining objectives. Once set, the objectives are then used to select learning experiences and instructional strategies to accomplish the objectives and to evaluate the learning experience and the student.

Recommendation: The objectives of clinical education should be written to encompass the many activities of physical therapy personnel in the areas of patient services, communication, administration, education, research, and personal and professional growth. Other areas of function can be included as deemed appropriate.

The objectives of clinical education should reflect the anticipated activities of the graduates of the program. Patient services, communication, administration, education, research, and personal and professional growth are widely supported by the literature, the national Essentials (014), the Project task force members, and the UNC-CH study as the areas of activity appropriate for physical therapy personnel. Each of these areas should be described by many specific objectives relating to that area, and the objectives should encompass the full scope of each area. The emphasis of clinical education experiences within these areas should be changing constantly to reflect the current health care trends, projected health care needs, and the overall educational philosophies.

Recommendation: The faculty (academic and clinical) and the student should all have input into objectives for clinical education learning experiences.

All persons or groups with an interest in clinical education should have input into developing the objectives for clinical education. There are, however, two levels of input, direct and indirect. Direct input into formulating clinical education objectives should be received from the faculty and students. Indirect input should be received from several other groups--consumers, health care planners, physicians, and educators.

Recommendation: Learning experiences should encompass varieties of patient types, physical therapy roles, learning opportunities, and clinical instructors, as well as a variety of educational strategies to meet the clinical education objectives.

The learning experiences designed and selected for a student must be compatible with the objectives set for the student's learning experiences, and both should reflect the many facets of the physical therapy profession, the changing health care needs, and the changing health care delivery system. Since physical therapy personnel are constantly relating with other health professionals (e.g., physicians, occupational therapists, nurses, social workers, and vocational rehabilitation counselors), these people should be included in the learning experiences of physical therapy students.

The full range of educational strategies to be utilized by persons developing learning experiences includes simulations, self-instructional materials, direct patient care, demonstrations, lectures, practice, group and team work, problem-solving techniques, independent study, and modeling. A well-planned, carefully scheduled orientation to each clinical center before and after the student arrives is mandatory, as is an orientation to each assignment within that clinical center. Assignments away from the community where the educational institution is located should also include an orientation to the community where the clinical center is located.

Recommendation: The clinical education program should be flexible, both in length and content, to provide for individual learning and individual student variation.

Students should be allowed to remain in a clinical education center long enough to fulfill the objectives of the selected learning experiences. This may involve more or less time than has been scheduled. If it is less, the student should be given the option of leaving the center early or being given additional, higher-level objectives at that center that build on the competencies and objectives that have already been mastered. If a student demonstrates mastery of an objective before the clinical experience for that objective, the same choice should be offered as in the above case.

The problems involved in scheduling clinical education learning experiences with this degree of flexibility were recognized by the Project, which concluded that we should still strive for this optimal arrangement.

Recommendation: Evaluation should be an integral part of the process of clinical education, and pertinent feedback from that evaluation process should be provided to everyone involved in the clinical education process.

Evaluation planning should be built in when the clinical education program is planned. All facets of the clinical education program (the learning experiences, the faculty, the clinical center, the student, and the curriculum) should be evaluated. The evaluation, however, serves no constructive purpose unless the information gained from it is made available to the appropriate individual (the ACCE, the CCCE, the CI, or the student) in time to be useful. This information should be used to improve the clinical education program and the individual's own performance. Evaluation is the topic highlighted in Section D of this chapter. It is discussed in further detail in Chapter 6.

Recommendation: The student should have input into the selection of clinical education sites for his or her clinical education learning experiences.

The student should have a voice in the objectives of clinical education within the framework of the objectives of the whole educational program. Selection of the clinical education site where particular objectives will be met is an important decision, and students should have distinct input into it. Never, though, should the student have total responsibility for selecting or arranging for the sites for his or her clinical education experiences; that responsibility rests with the ACCE.

Recommendation: The student is the focus of the clinical education process and should be involved in all phases of that process.

Student input should be valued and solicited in all phases of planning the clinical education program. By the same token, the student does not generally have enough experience or knowledge to take over any one phase of that planning completely. Guidance by the clinical faculty is necessary when the student is given the responsibility for planning any section of the clinical education program.

Specifically, student input should be requested in setting the objectives of learning experiences, in selecting the clinical center assignments, in the evaluation of the experiences and the clinical education curriculum, and possibly also in choosing teaching strategies to be utilized based on his/her own style of learning. The student's commitment during the clinical education process is a crucial element in its success. The utilization of student input into program-planning serves to increase student commitment.

A Final Word

When the preceding quite brief conclusions and recommendations concerning the process of clinical education are combined with the two earlier Sections A and B dealing with clinical education sites and clinical faculty, all of the elements of clinical education are included--the place, the people, and the process. Evaluation of these elements has been mentioned throughout the three sections, for it is an integral part of the whole. Evaluation, however, has many specific aspects which must be dealt with separately, and which could not logically be presented in these pages until the places, the people, and the process of clinical education were covered. Evaluation conclusions and recommendations can now be presented in context in Section D.

D. THE EVALUATION PROCESS IN CLINICAL EDUCATION

The evaluation process should control and guide the judgments and decisions of those evaluating and those being evaluated in the clinical education process of physical therapy education. This was a basic conclusion of the Project on Clinical Education. High importance is already placed on the role of evaluation in predicting performance of people and events, but evaluation has often become all-pervasive, occupying enormous amounts of time and energy for the physical therapy educator and practitioner. The process can become cumbersome and bureaucratic, thus obscuring the purposes for which it was intended, which are: to determine whether or not objectives of educational programs, especially clinical education programs, are being met; to determine whether or not objectives appropriate to the needs of society and of the individuals involved are being met; and to make appropriate modifications in the educational programs or in the individuals involved when the objectives or purposes of the activity are not being met.

The UNC-CH study indicates that there is minimal displeasure or friction existing between the staffs in the clinical centers and in the educational institutions on the subject of evaluation. With few exceptions, evaluations performed by clinical faculty are accepted by the academic staff. The clinical center staff report that they deal directly with student failure, with minimal assistance requested or needed from faculty at the sending institution. However, staff in clinical centers where there are contracts with several educational programs are somewhat concerned because of the number and types of evaluation devices with which they must deal.

More attention is currently directed to evaluating the student than to evaluating elements of the clinical education process through which the student progresses. There is insufficient evaluation of the clinical education site, the clinical faculty members, and the learning experiences that the student pursues. Evaluation of the entire curriculum receives scant attention. Greater attention, sensibly planned and coordinated by associated interested parties, is needed with respect to clinical education evaluation programs; individual educational institutions, individual clinical centers, and the entire community in physical therapy education should be involved.

The pages that follow include the recommendations and conclusions of the Project on Clinical Education, based on task force deliberations, the literature, and the other materials available to the Project. Overall aspects of evaluation appear first, then sections on evaluation of students, clinical centers, clinical faculty, learning experiences, and curriculum.

Evaluation as a Program

Recommendation: Those who evaluate and who are evaluated should participate in development and modification of the evaluation program utilized in clinical education.

The evaluation process, whether associated with the educational institution or the clinical center, should be a collaborative effort between faculty, clinical faculty, and students. The group effort can be effective through a clinical

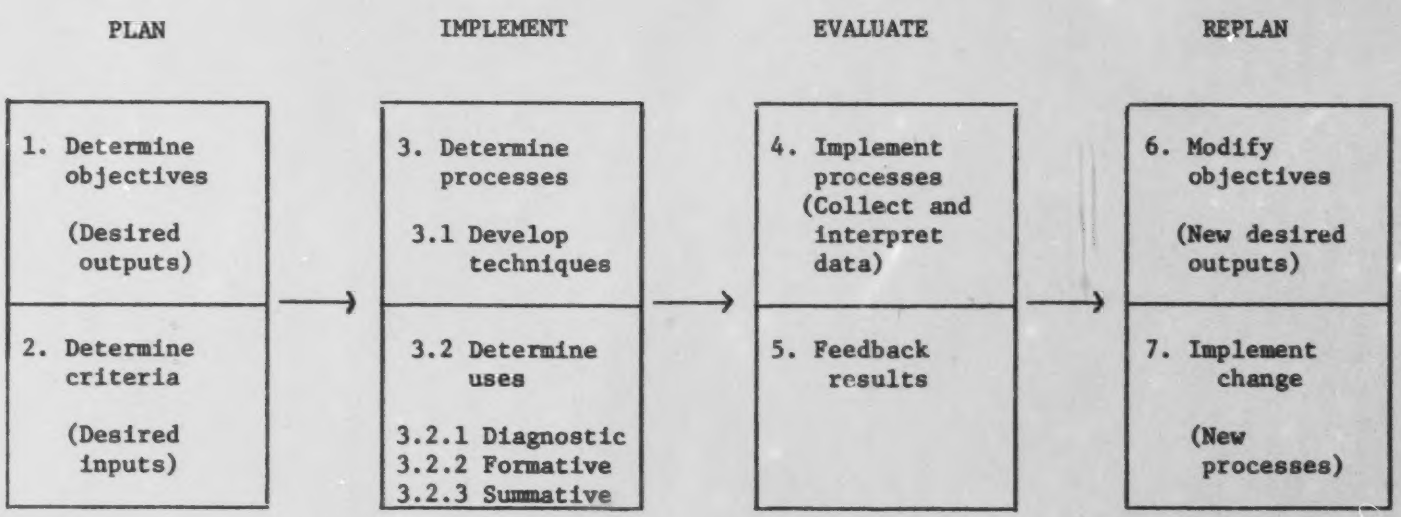

PLAN
IMPLEMENT
EVALUATE
REPLAN
1. Determine objectives
(Desired outputs)
2. Determine criteria
(Desired inputs)
3. Determine processes
3.1 Develop techniques
3.2 Determine uses
3.2.1 Diagnostic
3.2.2 Formative
3.2.3 Summative
4. Implement processes (Collect and interpret data)
5. Feedback results
6. Modify objectives
(New desired outputs)
7. Implement change
(New processes)

FIG. 2.1--Schematic presentation of the evaluation process education committee for each educational program, and all interests should be represented on that committee. Evaluation can and should be utilized on a regional basis involving more than one educational institution and several clinical centers.

In developing, utilizing, and modifying an evaluation program, the assistance of a person considered an expert on evaluation can be of tremendous value. In some cases there may be ready access to physical therapy people who have expertise in evaluation, but in other cases outside assistance and advice must be sought in designing and implementing evaluation programs.

The evaluation process as shown schematically in Figure 2.1 is a step-by-step endeavor:

1. Determine the objectives for evaluating each component--the rationale, the desired outputs of the curriculum, student, learning experience, members of the clinical faculty, or whatever else is being evaluated.

2. Support each objective by criteria against which judgments and observations will be made; these are often called desired inputs, and they must be determined before any instrument is developed or evaluation activity begins.

3. Involve all persons affected by the evaluation in determining how the process will be carried out; determine if one instrument or several need to be developed in order to evaluate, e.g., a student, a clinical center, or all students in a region or state; determine when the instrument or methodologies will be used and for what purpose:

    a. Diagnostic (e.g., frequently needed to determine the current level of competency of the student before assignment or the current status of the clinical center before a contract is negotiated between interested parties).

    b. Formative, formal or informal (e.g., needed during the assignment period to determine if the clinical faculty and students are performing as well as desired or expected, or if the learning experiences are well-designed and realistic).

    c. Summative, taking place at the end (e.g., of an assignment, term, unit, or even at the end of the curriculum to determine if objectives for all components of the clinical education process have been met and all competencies achieved).

4. Implement processes by collecting data and interpreting the data that have been attained.

5. Feedback the results; once the evaluation has been carried out, regardless of the time period, it is worthless unless feedback occurs so that those responsible have an opportunity to benefit by the results of the process; only with good, honest, continuous communication in telling the evaluatee what the process showed is there an opportunity to reinforce good behavior or to modify programs in order to improve the educational process.

Step	Student	Clinical center	Clinical faculty			Learning experiences	Curriculum
			ACCE	CCCE	CI		
1. Determine objectives (Desired outputs)	____	____	____	____	____	____	____
2. Determine criteria (Desired inputs)	____	____	____	____	____	____	____
3. Determine processes							
3.1 Develop techniques	____	____	____	____	____	____	____
3.2 Determine uses	____	____	____	____	____	____	____
3.2.1 Diagnostic	____	____	____	____	____	____	____
3.2.2 Formative	____	____	____	____	____	____	____
3.2.3 Summative	____	____	____	____	____	____	____
4. Implement processes (Collect and interpret data)	____	____	____	____	____	____	____
5. Feedback results	____	____	____	____	____	____	____
6. Modify objectives	____	____	____	____	____	____	____
7. Implement change (New processes)	____	____	____	____	____	____	____

FIG. 2.2--Tabular presentation of the evaluation process in clinical education

6. Modify objectives, based on adequate feedback (e.g., for a unit, a term, or an individual assignment); determine new objectives, at any time (e.g., during an assignment, for the next assignment, or for another year's program planning).

7. Implement change; once the new objectives are determined they can and should be implemented as new desired processes in the educational cycle, which also involves the evaluation cycle; changes in objectives and implementation of desired changes are appropriate at any time during the educational process.

The seven-step process just described is applied in the following pages in specific discussions on evaluation of the student, the clinical center, the clinical faculty, the learning experiences, and the curriculum. The evaluation process as tabulated in Figure 2.2 follows these seven steps. (The preceding text and the two figures were developed after study of the following bibliographic entries in Appendix A: *017*, *020*, *021*, *077*, and *193*.)

Recommendation: Methodologies currently in use, and the evaluation program as a whole, should be reexamined by each educational program on the basis of fundamentals as elaborated in the text of this report and in standard texts on evaluation.

In major reassessment of current evaluation programs, the assistance of an evaluation expert is a wise investment of time and money, as mentioned above with respect to initiating and routinely reassessing an institution's evaluation program. Chapter 6 sets forth the fundamentals of evaluation and includes a lengthy discussion of methodology. For purposes of brevity here in Chapter 2, some caveats that might be helpful to the reader are presented--namely, some sources of measurement error involving validity and reliability, including those associated with the rater.

Sources of Measurement Error Involving Validity

1. Validity is lacking in such respects as:
    a. Content validity, usually associated with lack of coverage of the subject.
    b. Construct validity, usually associated with lack of focus on the target of the evaluation.
    c. Criterion-related validity; face validity.
2. Behaviors being evaluated are not observable and other observer effects.
3. Items of behavior under study lack representativeness (cf. content validity).
4. Items lack adequate criteria for judgment.

5. When rating instruments are used, special problems are related to:

   a. Items susceptible to certain types of biases.
   b. Contrast errors.
   c. Proximity errors.

6. The extent and nature of the training of the rater as an observer and evaluator have been inadequate.

7. Observers have preferences, expectations, needs, feelings, and personal biases which distort their functions as raters.

8. Individuals are reluctant, uncomfortable, or unwilling to "sit in judgment" of others.

9. Raters can be intimidated by the Federal Disclosure Act (Buckley Amendment).

10. The rater has an inadequate appreciation of the importance of the evaluation.

11. The rater objects to the time the evaluation takes away from regular and primary duties.

12. The amount and type of previous information that the rater has on the person evaluated may influence the rater (there may be too little information or a great deal, and biases result).

13. The differences in philosophy of education and service between the rater and those designing an instrument may cause validity errors.

Sources of Measurement Error Involving Reliability

1. The emotional and physical well-being of the raters influences their judgment.

2. There are variable skills among observers; some individuals simply are better than others, regardless of the amount of training.

3. The length of exposure to the person being evaluated is inadequate (for example, in clinical education exposure time can be affected by staff turnover, the length of a student's assignment, and the proximity of the observed individual to the observer).

4. When too few or too many persons are to be evaluated, this may decrease the rater's effectiveness (for example, if only one or two students are to be evaluated, observer skills may be faulty; if too many students are to be evaluated, the rater may be careless or rushed).

5. Evaluating persons with different levels of experience can be confusing to the rater, especially if the evaluation times are close together (as might apply when one evaluates clinical faculty members or students).

6. Using different types of devices within a single time frame may be confusing to the rater (for example, the rater may be required to use several types of forms on beginning students for more than one educational program within one or two days or a week).

7. There is lack of objectivity related to:

    a. Problems of inference associated with poorly constructed items which lack clarity and specificity.

    b. Context associated with the surroundings if the lighting or ventilation is poor.

    c. Observer effects if the presence of other personnel, equipment, or procedures interfere or distract.

8. There are inadequate instructions to the rater.

9. There are inadequate explanations on the purposes or uses of the instrument.

10. The format of the device, including its design, layout, spacing, typography, and reproduction, is poor and confusing.

11. The instructions, although adequate, are misinterpreted by the rater.

Recommendation: Regular and periodic inservice education programs or other forms of instruction should be planned for all educators and/or practitioners involved in the design and implementation of education evaluation methodologies associated with clinical education.

The periodic and frequent turnover in faculty and clinical staff involved in clinical education necessitates the desirability of periodic instructional sessions on the fundamentals of evaluation as well as on training as raters or evaluators. These periodic programs can be formalized for larger groups or can be informal for new raters within a select clinical center. It is advisable that each year CIs, or anyone involved in rating another person's performance or in evaluating activities, receive refresher orientation to or instruction regarding the device being utilized, the objectives, the methods by which the device is to be completed, and the interpretation of results. If devices do not change, the process is simpler than if the evaluation instruments undergo major modifications. Periodic instruction is not difficult when turnover is slight; refresher training is desirable each year for any group of evaluators or raters.

In the preceding discussion of measurement errors affecting validity and reliability, many involve the rater. Problems associated with the rater may be amenable to training, and their contribution to errors may be diminished if recognized and dealt with.

Recommendation: Evaluation of individuals involved in clinical education (ACCE, CCCE, CI, and student) should be based primarily on predetermined competencies identified as desirable, or necessary, for functioning at various levels of activity and in a variety of roles.

Evaluation of persons should be based on an assessment of individual performance. Desirable performance should be expressed in terms of competencies to be displayed by a student or by individual members of the clinical faculty in certain situations or at specific times. Competency-based evaluation can cover affective, psychomotor, and cognitive domains of behavior. Where professional or personal characteristics are exceedingly difficult or impossible to assess based on statements of competency, other forms of evaluation should be utilized.

Individuals to be evaluated should have a clear knowledge of what is desired and expected of them in order to know beforehand on what standards they will be judged.

Recommendation: Evaluation programs should include emphasis on self-evaluation.

Techniques for self-evaluation are increasingly in use in business, education, and health care institutions. Self-assessment procedures can be used in certification and accreditation, but the self-study approach is valuable also when formal accreditation is not an issue. Self-evaluation techniques are discussed in Chapter 6, where constructive administrative purposes are stressed (e.g., where staff members reassess the objectives and quality of the functioning of their organization).

Lifelong habits of personal development are fostered by early use of self-evaluation techniques with individuals. Formal as well as informal methods of self-evaluation should be utilized with clinical faculty as well as with students of physical therapy.

Recommendation: Reducing excessive numbers of instruments utilized in evaluation programs for clinical education should be an objective of the academic faculty, clinical faculty, and students through joint effort.

Efforts should be made to reduce the number of instruments utilized in evaluation of clinical education in physical therapy and also the frequency of the use of these instruments. This reduction can be accomplished by more state and regional planning, sharing of data among agencies and institutions, and more selective use of evaluation mechanisms.

Although it is unlikely that a universal instrument is either wise or possible for student evaluation, for a variety of reasons, the number and variety of those currently in use can and should be decreased by thoughtful educators and practitioners. The reduction in number would be heartening to the CIs who work with large numbers of students from different educational institutions, and there would be the added benefit of increasing the reliability of the evaluation process, as mentioned previously.

As for student evaluation of clinical faculty and of clinical centers, devices should be regionally developed and utilized, but it should be noted that repeated reassessment by each student for each clinical faculty member and each clinical assignment might be questioned as a wise investment of time and money when staff and clinical center characteristics remain stable.

The Project on Clinical Education developed the set of nationally applicable standards for a clinical education site in physical therapy referred to in Section A of this chapter. Their use in evaluation of clinical centers is discussed later in the present section.

Evaluation of Student

Recommendation: A comprehensive student evaluation program should be designed and utilized for the benefit of the student, the academic and clinical faculty, future students, consumers, and those responsible for curriculum design and implementation.

The benefits of a well-designed and well-executed program for student evaluation should be appreciated by all those involved in physical therapy education. The primary consideration is for the continued development of students throughout their education so that they can reach their fullest potential. The evaluation should produce evidence of readiness to practice, and multiple sources should be used to provide such evidence in four areas: personality characteristics, knowledge of subject matter, application of subject matter, and performance on the job. *(152)*

In evaluating students, others involved in clinical education benefit, including those who teach, those who plan curriculums, and those who recruit and admit future classes of students. They benefit by the impact that feedback data have on their own performance as well as by appreciation of student characteristics. Only a well-designed evaluation program with comprehensiveness and continuity has the potential for giving sufficient feedback on the basis of which judgments can be made, projections determined, and future classes of students benefited. Immediate assessments and long-term studies are possible when well-designed programs are in effect.

Recommendation: The student should know what competencies or objectives he or she is to strive for and how well these have been achieved at various times in the progress of clinical education.

The Product Standards of Physical Therapy Education, as developed and accepted by the American Physical Therapy Association *(011)*, form the basis for the determination of competencies or behavioral objectives desired for students to achieve, usually in four basic areas: individual patient services, communications, administration, and professional or individual growth. A further breakdown of components includes personal characteristics, attitudes, integration of didactic and clinical education, interpersonal relations, and research--to list only a few which emanate from curriculum objectives.

Each educational program should have its own statement of objectives or competencies for the entire curriculum, for each unit or course or phase of the curriculum, and for each student assignment to a clinical center. It is essential that the student be well-informed about the objectives or competencies expected of him/her in order to learn effectively. Since the student is to be assessed according to preset objectives, it is only fair as well as educationally sound that they are known to the evaluatee before each assignment, unit, or course.

It should be recognized by all those involved in clinical education that individual students have personal objectives for different types of assignments and learning experiences; these may change as one progresses through the curriculum. Self-evaluation should be encouraged.

Readers might be interested in noting that the article by Bloom on learning for mastery (042) and Trivett's review of competency-based education (220) are helpful documents to guide those involved in designing an evaluation program.

Recommendation: Collaborative efforts should be made by educators and practitioners in a state or region to reduce the number and types of evaluation devices utilized for student assessment.

Participants in the Project on Clinical Education do not recommend one standard form for the evaluation of all physical therapy students in all clinical settings, except for licensing purposes. However, there is need for a reduction in the number and types of devices to be utilized by busy clinical faculty.

Efforts should be made for several educational programs in a state or region to collaborate in designing instruments that are suitable for their needs and those of the clinical centers in order to reduce the number of devices with which the clinical faculty must deal. Some ACCEs are working with clinical centers to assist them in designing their own devices; some ACCEs are working with clinical faculty from several clinical centers in order to develop instruments suitable to more than one program. Clinical centers with sufficient staff complements and many students from several educational institutions should be strongly encouraged to develop their own evaluation instruments, based on their own objectives and resources for clinical education. Staff from different large or small clinical centers should collaborate in sharing their needs, devices, and ideas in an effort to reduce the number and complexity of devices currently in use or needed.

Any evaluation program should consider the merit of its components in relation to the time, effort, and cost involved as well as the feedback benefits. Efforts should be made to maximize benefits while minimizing less attractive and less beneficial components of the system. Based on the evaluation process described at the beginning of this section and exhibited in Figures 2.1 and 2.2, the program for student evaluation might be based on the following outline.

Step 1. Determine objectives of student evaluation (desired outputs) to achieve the following purposes:

1.1 To provide feedback which will reinforce or modify behavior or facilitate growth of the part-time or full-time student.

1.2 To determine if the student has achieved the various levels of competency at selected points in the curriculum and for graduation and for practice.

1.3 To determine grades (an unfortunate necessity in many situations).

1.4 To provide feedback information on strengths and weaknesses of the curriculum.

1.5 To provide feedback information on the strengths and weaknesses of the clinical education experience of the student.

Step 2. Determine criteria (desired inputs) of the objectives against which the students will be evaluated, based on:

2.1 The Product Standards of Physical Therapy Education of the American Physical Therapy Association. (011)

2.2 Objectives of the curriculum.

2.3 Objectives of a unit or course.

2.4 Objectives of clinical education.

2.5 Objectives of an assignment.

2.6 Objectives of the student.

2.7 Competencies desired in cognitive, psychomotor, and affective domains associated with:

- 2.7.1 Effective practice.
- 2.7.2 Personality.
- 2.7.3 Knowledge.
- 2.7.4 Ability to apply subject matter.

2.8 Personal characteristics desired of professionals in physical therapy.

Step 3. Determine processes and develop techniques for execution of the evaluation program:

3.1 Educators, clinical faculty members, and students should all have input into any method used, but the degree of involvement will vary depending on the focus.

- 3.1.1 One device may be developed for all advanced students in physical therapy, from one educational institution, or many.
- 3.1.2 One device may be developed for one center for all students assigned, regardless of the sending institution.
- 3.1.3 One device may be developed for beginning students.
- 3.1.4 One device may be developed for intermediate students.
- 3.1.5 Evaluation devices may be developed on a national, regional, or group basis to reduce their number.
- 3.1.6 Certification, licensing, or accrediting agencies should develop devices with the assistance of physical therapy practitioners.

3.2 Determine when and for what purpose the processes will be followed and the techniques and devices will be used in the execution of the program.

- 3.2.1 Diagnostic evaluation can take place prior to placement or during assignment to determine the current level of competency of the student--informally or formally, by academic and clinical faculty, by student peers.
- 3.2.2 Formative evaluation during instruction or periods of assignment can be carried out to determine what progress is being made in achieving competencies and in reaching predetermined objectives.
  - 3.2.2.1 This process is usually informal, on an ongoing basis, by the clinical center staff, students, and patients; special devices can be utilized.
  - 3.2.2.2 Midterm or midpoint assessment can be made by clinical faculty, students, or patients on an informal or formal basis, although the technique is usually more informal.
- 3.2.3 Summative evaluation of the unit, semester, term, or year can be carried out to determine what level objectives or competencies have been reached.
  - 3.2.3.1 At the end of an assignment for one student by the clinical faculty and the student on a special device.
  - 3.2.3.2 At the end of all assignments for one student as completed and compiled by the ACCE from all feedback data.
  - 3.2.3.3 At the end of assignments of all students of one institution by the CCCE using a summation of all student evaluations.
  - 3.2.3.4 At the end of assignments of all students to all clinical centers by the ACCE and the curriculum committee, based on all feedback data available.
  - 3.2.3.5 At the end of the curriculum on one student by the faculty using all feedback data. This process may include scores on a comprehensive examination and achievement scores on a licensing examination.

3.2.3.6 At the end of the curriculum for all students by the faculty using all feedback data, including achievement on licensing examinations.

3.2.3.7 The ACCE can assess all students assigned to one center by compiling and analyzing evaluation feedback on students.

3.2.3.8 The ACCE or the CCCE can compile and analyze all evaluations of one selected CI on all assigned students.

3.2.3.9 After completion of licensing or accreditation examination, the appropriate official group, or the faculty in the educational institution, can assess all performance data.

Step 4. Implement the processes as described above; this will make it possible for data to be collected and interpreted by appropriate individuals (such as the ACCE, the CCCE, or the combined faculties) on a student or a group of students.

Step 5. Feedback results; actual outputs, data, or information obtained by the evaluation process should be shared with the student, the educational institution's faculty, and staff in the clinical center in time to allow reinforcement or program modifications to take place.

Step 6. Modify objectives as new desired outputs for the education of the student or group of students, based on the accumulated information from the above steps. This can be accomplished:

6.1 For the assignment of one or more students.

6.2 At the midpoint of the assignment for one or more students.

6.3 For subsequent assignments for one or more students.

6.4 For subsequent classes of students.

6.5 For influencing the recruiting and admission practices of the educational institution.

Step 7. Implement change or put new processes in motion, based on modified objectives (new desired outputs). The new processes may involve:

7.1 Recruiting and admission practices.

7.2 Reinforcement of desirable performance and behavior on the part of the student.

7.3 Modifying assignments for one or more students.

7.4 Counseling students to modify behavior.

7.5 Establishing new objectives and competencies to be achieved in a subsequent unit or course.

7.6 Planning for meeting personal needs through continuing education.

7.7 Planning for a suitable employment situation based on an analysis of the data collected.

7.8 Modifying the curriculum in general or in specific areas relating to clinical education.

Grading

Recommendation: Academic institutions should have clearly written grading and promotion policies with respect to performance in clinical education (on an assignment, for a unit, for a term). The written policy should be reviewed on a regular basis with students and clinical faculty.

Grading and promotion policies should be in writing and kept current for the entire curriculum; the same applies to specific policies that are needed for clinical education units which involve clinical faculty members who are not physically located in the academic institution. These policies should be known to students and clinical faculty members and should be reviewed at least annually with both groups. It should be acknowledged that generally the ACCE as an official member of the academic faculty is responsible for the grading process. Special attention should be paid to defining the manner in which student progress and performance in clinical education will be determined and achievement recorded in official records.

Recommendation: Grading of students should be on a pass/fail basis, using a system of assessing the achievement of predetermined desirable objectives and competencies.

Although there are deficiencies in grading systems of almost any type, as described in Chapter 6 of this report, it appears wise for the grading to be based on the individual achievement of students. A system of pass/fail grading, based on achieving objectives or on competency-based achievement, is considered the most satisfactory way in which grading for clinical education, if not for other components of the curriculum, can be determined.

A system of this type is most satisfactory when accompanied by a narrative report in the student's record indicating achievement on different levels and commenting on performance not mirrored by any type of grading system. The student's record report should include the results of self-assessments, peer evaluation, and supervisors' evaluations, all of which should be combined in determining the pass/fail and become part of the student's permanent record.

Evaluation of Clinical Center

Recommendation: The standards for a clinical education site in physical therapy (Appendix B), using the accompanying self-assessment inventory as a guide to their application, should be pretested with a variety of clinical centers throughout the country to determine the strengths, weaknesses, and practicality of the documents.

The self-assessment guide was pretested in an earlier version and found deficient in many areas. The current inventory (pages B-27 through B-60) has been extensively reworked, but it should again be pretested under the leadership of members of the Section for Education of the APTA. Clinical centers currently affiliated with educational institutions and some that are not currently affiliated should be included in the pretest group.

Recommendation: When deemed workable, the standards for a clinical education site in physical therapy should be utilized by educational institutions involved in physical therapy education as a basis for evaluation in the selection and development of clinical education sites.

Recommendation: The standards for a clinical education site in physical therapy should be utilized in order to reduce the number of requests made by educational institutions to clinical centers affiliated with more than one educational institution and to encourage self-evaluation within the center; longitudinal studies and comparative research projects can be facilitated.

Currently, each educational program has some process by which it secures information from clinical centers and by which it reassesses the resources within the clinical center on a periodic basis. By using the standards uniformly presented in the self-assessment guide, the multiple requests received by clinical centers affiliating with more than one educational program can be reduced and information can be shared among several educational institutions. There is an initial investment of time in completing the self-assessment, but the forseen long-range benefits should offset any problems.

Recommendation: Clinical education sites should be evaluated by students after completing their assignments, using an instrument which should be developed based on the standards for a clinical education site in physical therapy.

The envisioned device by which students could periodically evaluate clinical education sites to which they have been assigned, should be developed nationally in order to reduce the number of evaluation instruments utilized currently and in order to encourage longitudinal studies and comparative research projects. An example of such a device appears in Appendix B.

It is appropriate that clinical centers perform self-studies based on an assessment of their own goals and objectives as officially adopted by their governing boards. This process would give a greater understanding within the institution by which the staff can preserve and strengthen the strong elements, reduce or eliminate problem situations, and chart new directions after first determining that the staff does wish to become affiliated with an educational institution. (214)

With clinical education a collaborative effort, effective communications and good personal relationships between people in both clinical centers and educational institutions is necessary, as emphasized in Section A of this chapter. Letters, phone calls, visits between persons associated with each institution should be utilized on a regular and continuing basis. The ACCE should call on the clinical center staff before and/or following completion of the self-assessment. Visits to the clinical center should be at least once a year and more frequently if possible once relationships have been established. Visits by staff from the clinical center to the educational institution should be arranged and encouraged on at least a yearly basis. Visits by either party should be prearranged and preplanned in order to avoid confusion and to assure that the time is well spent. Time of arrival and departure, topics for discussion, requests for appointments with key individuals, notification to the students of the presence of the visitors--all should be part of the preplanning.

When the ACCE is in the clinical center, he/she can make observations of the appearance, attitude, mood, and tone of the department; review departmental records and reports and students' schedules and reports; and arrange opportunities to interact with physical therapy staff. Other services in the clinical center can be visited in order to ascertain relationships, interdisciplinary educational programs, team work assignments, and resources that are available for learning experiences outside of the physical therapy unit. When staff from the clinical center comes to the educational institution, similar activities can be engaged in for the benefit of all involved.

The ACCE has the responsibility of synthesizing all information available, based on material submitted by the clinical center, both subjective and objective data gathered at the visit, materials included in the evaluations of students previously assigned to the center, and information from other sources if available. Collaborative decisions between the two institutions can then be made on whether a contract would be negotiated or renegotiated and whether modifications are indicated in the terms of the agreement. (160, 162, 203) All transactions should be followed up by letters of appreciation and clearly stated plans of action on renewal of agreement, initiation of contract, modification of agreement, or discontinuance of the agreement.

The step-by-step process involved in evaluating the clinical education site is presented below in the same format previously utilized:

Step 1. Determine objectives (desired outputs) of the evaluation of the clinical education site, which might include obtaining data for the following purposes:

1.1 To develop new clinical education sites.
1.2 To improve existing clinical education sites on a national, program-by-program, or center-by-center basis.
1.3 To dissolve an agreement with a clinical education site.
1.4 For eventual certification or accreditation purposes.

Step 2. Determine criteria (desired inputs) of the objectives of the evaluation process based on:

- 2.1 The standards for a clinical education site in physical therapy (Appendix B).
- 2.2 Requirements for physical therapy educational programs included in the essentials of acceptable educational programs. (014)
- 2.3 The objectives of the curriculum and what is needed to meet these objectives.

Step 3. Determine processes and develop techniques, devices, or instruments for execution of the evaluation program:

- 3.1 Involve contributions from educators, practitioners, clinical faculty, and students.
  - 3.1.1 The standards for a clinical education site were developed with data received from all involved parties.
  - 3.1.2 A device for student assessment of the clinical center should be designed based on the standards for a clinical education site. (See the example of such a device in Appendix B.)
- 3.2 Determine when and for what purpose the processes will be followed and the techniques and devices will be used in the execution of the program.
  - 3.2.1 A preaffiliation diagnostic evaluation of the clinical center for placement at the onset of a unit, a semester, or a year, or periodic reassessment at three- to five-year periods or when major staff changes occur.
  - 3.2.2 A formative evaluation can take place during a period of assignment as an ongoing process by the clinical center staff, students on assignments, and the ACCE. This can be accomplished on an informal basis or with special formative evaluation instruments.
  - 3.2.3 Summative evaluations can be implemented at the end of a unit, a term, or a year.
    - 3.2.3.1 At the end of an assignment of one student by the CIs and the student; guidelines for the student's assessment of the clinical center need to be developed.
    - 3.2.3.2 At the end of all assignments of students from one educational institution, a composite of evaluation information should be compiled by the clinical center staff and by the ACCE, based on student evaluations, visits, and other feedback information.
    - 3.2.3.3 At the end of all assignments for one year, from all affiliating institutions, the clinical center staff should make a composite evaluation based on all data available from the educational institutions and from their own evaluations.

3.2.3.4 Periodic reassessment should be done by the clinical center staff, based on the standards for a clinical education site and its self-assessment guide, on a three- to five-year basis in a complete and formal manner.

Step 4. Implement processes of evaluation of the clinical education site according to a master plan designed by the ACCE, assisted by other clinical faculty, and the curriculum committee. Timing should be determined, process outlined, data collected, and interpretations made of all information. An effort should be made to reduce to a minimum the number of repeated requests to the clinical center staff.

Step 5. Feedback results, based on all previous action and an analysis of the data collected, to all involved parties including students, clinical staff, faculty in educational institutions, administrators in clinical centers, and administrators in educational institutions as deemed appropriate by the nature of the information. This feedback can occur by personal contact or letter or phone, but primary evaluation data should be preserved in writing and distributed to those who would benefit by receiving the information.

Step 6. Modify objectives and identify new desired outputs based on feedback data. Modifications in objectives can be effective for:

6.1 A student while still on an assignment.
6.2 The assignment of a group of students from one educational institution or fromseveral educational institutions.
6.3 A clinical center when changes in staff or program take place.
6.4 The curriculum when changes in personnel, philosophy, or resources take place.

Step 7. Implement change when desirable and identify new processes involving any of the following types of actions:

7.1 Reinforcing strengths of the clinical education site.
7.2 Modifying weak areas in the clinical education site and its program.
7.3 Adding new elements to the clinical center.
7.4 Initiating new types of affiliations or learning experiences.
7.5 Dissolving the affiliation agreement.

Evaluation of Clinical Faculty

The Project on Clinical Education conclusions and recommendations on the evaluation of clinical faculty members are presented here in format similar to the other components of an overall evaluation program.

Recommendation: All ACCEs, CCCEs, and CIs who constitute the clinical faculty should be evaluated in an ongoing, well-planned program which is reviewed annually.

Recommendation: All members of the clinical faculty should have input into the design and implementation of the evaluation process in which they are involved.

Recommendation: Members of the clinical faculty should have prior knowledge of the criteria or competencies on which they will be evaluated.

Recommendation: Techniques of self-evaluation should be a basic component of any evaluation of the members of the clinical faculty.

Evaluation of clinical faculty should strengthen the fabric of education and reemphasize the vital role played by these individuals in all phases of the clinical education of students. As discussed in Section B of this chapter, the clinical faculty member is motivator, teacher, organizer, and administrator in the clinical education of students. Continual improvement of performance inthese roles and professional and personal development of the individuals involved are important functions of faculty evaluation. Less attention has been paid to faculty evaluation than to student evaluation, as indicated by the literature and the "soft data" made available to the Project. Similar principles apply. Those to be evaluated should help design the program and take care that it is implemented as an ongoing process. Each person should be reviewed at least annually, and job descriptions for each position, specifically stating job responsibilities, are essential to the process; they should be available to individuals before employment or assignment to new duties, and they should be periodically updated.

Management by objectives is suggested as a useful feature of the evaluation program for clinical faculty, as is self-evaluation, which when voluntarily undertaken in a structured way can serve to strengthen commitment to self-improvement and lifelong learning, so necessary for members of a profession. Regional planning between educational institutions and clinical centers is also recommended, not only to improve the evaluation of clinical faculty, but also to reduce the number and variety of instruments or processes involved.

A step-by-step plan for developing an evaluation program for the clinical faculty follows.

Step 1. Determine objectives (desired outputs) for evaluation of clinical faculty, which might include the following:

1.1 To provide information to encourage the modification of behaviors where changes are needed and to enforce desirable personal and performance standards and characteristics.
1.2 To obtain information in order to assess areas of strengths and weaknesses of each individual.

1.3 To provide the structure for personal development for members of the clinical faculty.
1.4 To identify members of the clinical faculty who are prospects for promotion to greater responsibilities or whose responsibilities should be modified or changed.
1.5 To provide information for possible certification as an educational specialist, if appropriate.
1.6 To identify CCCEs and CIs for appointment to academic faculty appointments.

Step 2. Determine criteria (desired inputs) by which members of the clinical faculty will be evaluated from such sources as:

2.1 Job descriptions, which individuals should have access to prior to employment; periodically updated.
2.2 Faculty responsibilities as defined in the Essentials. *(014)*
2.3 The content of the standards for a clinical education site.
2.4 Faculty requirements and recommendations of educational institutions.
2.5 Materials included in Chapter 4 of this report.

Step 3. Determine processes and develop techniques for execution of the evaluation program:

3.1 Involve appropriate individuals.

3.1.1 The process of evaluating the ACCE should be developed by the CCCEs, the CIs, students, peers, and supervisors in the academic institution.
3.1.2 Evaluation of the CCCEs should be developed by the directors of physical therapy services, clinical staff, students, ACCEs, and supervisors or superiors.
3.1.3 Evaluation of the CI should be developed by the CCCE, the director of physical therapy services, students, and ACCEs.

3.2 Determine when and for what purpose the processes will be followed and the techniques will be used in the execution of the program.

3.2.1 Diagnostic self-evaluation may be desirable and profitable prior to assuming responsibilities for a unit, a term, an assignment, or a year by the ACCE, the CCCE, or the CI.
3.2.2 Formative evaluation should be performed during periods of activity as an ongoing program involving frequent communications with students, superiors, or colleagues up and down the line of communication. A midterm or midunit evaluation of the CI and perhaps the CCCE may be wise.
3.2.3 A summative evaluation at the end of a year, term, or assignment varies depending on the individual involved.

3.2.3.1 The CI should be evaluated at the end of the year by the CCCE, self-evaluation, peers, and director of physical therapy services. Students should evaluate the CI at the end of an assignment if the CI is new or known to be in need of reinforcement or improvement. Routine student evaluation may be discouraged if the individual has performed well over a period of years.

3.2.3.2 The CCCE should be evaluated at the end of the year by the CIs, the ACCEs, the director of physical therapy services, and self-evaluation techniques. Routine student evaluations at the end of each assignment may be discouraged if the individual has routinely performed well over a period of years.

3.2.3.3 The ACCE should be evaluated at the end of the year by self-evaluation techniques, students, peers, CCCEs, CIs, and the director of the educational program.

Step 4. Implement processes of evaluation of the clinical faculty according to a plan developed collaboratively between the educational institution and the clinical center, using a time frame and instruments and processes mutually agreed to. Depending on the nature of the devices and the frequency of their use, the data should be collected by appropriate individuals, synthesized, and then interpreted.

Step 5. Feedback results by mechanisms which should be in effect once the data have been collected and interpreted indicating the actual output of the clinical faculty members. This material should be shared in writing and by other forms of communication with appropriate individuals at the educational institution and the clinical center, including supervisors, administrators, and individuals personally evaluated. A crucial step in the evaluation process is for the individual to be fully informed of the content of all sources of evaluation of his/her performance.

Step 6. Modify objectives and determine new desired outputs with relation to the behavior and job responsibilities of members of the clinical faculty:

6.1 Immediately while the student is still on assignment; this would involve all clinical faculty.
6.2 Regularly, at least once a year for all clinical faculty.
6.3 At the end of an assignment of one student, if indicated, for the CCCE and the CI.
6.4 At the end of all assignments from one academic institution to one clinical center for the CCCE and the CI.
6.5 At the end of all assignments from all schools for the CCCE and the CI.
6.6 At the end of all assignments for the year for the ACCE.
6.7 At the end of all assignments for one year for students from one academic institution to one clinical center for the ACCE from the sending institution.

Step 7. Implement change or put new processes in motion which would:

- 7.1 Reinforce desirable behavior of all individuals involved.
- 7.2 Suggest changes or modifications in behavior for all individuals where indicated.
- 7.3 Assist in planning self-improvement strategies for all individuals where indicated.
- 7.4 Change the job responsibilities as indicated for specific individuals.

Evaluation of Learning Experiences

Recommendation: An evaluation program should include an assessment of the quality and effectiveness of learning experiences which have been utilized in the student's clinical education.

After objectives of clinical education are determined early in the planning, as highlighted in Section C of this chapter, learning experiences should be selected or designed in order for the student to have the opportunity of achieving the objectives. Learning objectives cover a broad range of educational opportunities, such as: giving case reports, observing a surgical procedure on a patient to be treated, evaluating a home situation, or performing an assessment of motor development on an infant. Too little attention has been paid to assessing the purpose, quality, and effectiveness of the learning experience and its appropriateness to the objectives of the clinical education experience. Greater efforts need to be exerted also in determining if learning experiences are appropriate to clinical education objectives and if clinical education objectives can be achieved by the learning experiences which are available to students. The Project concluded (see Chapter 5) that discrepancies exist between objectives for clinical education and the learning experiences participated in by students.

Logically, when objectives are first identified as desirable, learning experiences necessary to achieve those objectives, and how they can best be evaluated, should also be planned. Evaluation of the learning experience should include an analysis of:

1. The program objectives for each learner.
2. The experience which contributes to the attainment of the objective.
3. The response shown by the student.
4. The reinforcement which encourages the desired response.

Feedback on the evaluation of learning experiences is needed not only by the student but also by those responsible for designing the educational program. A host of learning experiences are utilized to achieve objectives associated with individual patient services, communications, administration, and professional and individual growth.

Evaluation of learning experiences can be carried out by a variety of techniques including rating scales and checklists, direct group discussions with students and staff, individual interviews and debriefing sessions, an analysis of learning outcomes, an assessment of student competencies, questionnaires, surveys of new graduates, and comparisons of groups of students with similar experiences and groups of students with different experiences.

Planning an evaluation program for learning experiences can be outlined in a step-by-step approach as follows.

Step 1. Determine objectives (desired outputs) of evaluation of learning experiences occurring in clinical education, which may include acquiring information for the following purposes:

1.1 To ascertain if objectives of the assignment were met.
1.2 To ascertain if objectives of the clinical education program were met.
1.3 To ascertain if objectives of the curriculum were met.
1.4 To ascertain if individual student objectives were met.
1.5 To reinforce or modify the design of the curriculum or the assignment of students for clinical education.
1.6 To discover the areas of student development best fostered by specific learning experiences available and utilized.

Step 2. Determine criteria (desired inputs) of objectives of learning experiences against which they will be evaluated, which can be derived from:

2.1 The standards developed by the Project for a clinical education site (see Appendix B).
2.2 The objectives of an individual clinical education assignment as determined by the ACCE, clinical center staff, and the student.
2.3 The objectives of the clinical education phase of the curriculum and those of the clinical center.
2.4 The primary objectives of the total curriculum.
2.5 The design of the curriculum and its clinical education components (e.g., concurrent versus block assignments, range of assignments by type of agencies).

Step 3. Determine processes and techniques or devices for execution of the evaluation of learning experiences:

3.1 Involve input received from practitioners, clinical faculty, and students, in addition to the academic faculty, in order to improve the validity and acceptability of the techniques and devices.

3.1.1 Input from one group may be greater than another at any one point in time (e.g., evaluation of learning experiences of one student in a clinical setting may involve major contributions by the CI, but evaluation of learning experiences associated with meeting the overall objectives of the entire curriculum would include the CI to a lesser degree).

3.2 Determine when and for what purpose the processes will be followed and techniques and devices will be used in evaluating learning experiences.

3.2.1 Diagnostic evaluation of available learning experiences for students includes:

  3.2.1.1 A preaffiliation diagnostic assessment for a new contract or a new affiliation, using appropriate sections of the standards in Appendix B and the inventory for self-assessment.
  3.2.1.2 A diagnostic reassessment every three to five years, or when major staff or program changes occur, either in the clinical center or in the curriculum (using appropriate sections of Appendix B).

3.2.2 Formative evaluation of learning experiences takes place during the period of clinical education assignment and the process is most often ongoing, concurrent, and daily by the clinical center staff and students, with input from the ACCE only if needed. The system is usually informal with no evaluation device utilized.
3.2.3 Summative evaluation of learning experiences includes an evaluation of a unit, a semester, a term, or a year and may be carried out:

  3.2.3.1 At the end of one student's assignment by the clinical center staff and by the student, using appropriate sections of Appendix B or special devices.
  3.2.3.2 At the end of all assignments of students from one educational institution by the clinical center staff, using appropriate sections of Appendix B. The ACCE should also make a composite statement based on feedback from the students and based on information derived from visits to the center and from other sources.
  3.2.3.3 At the end of assignments for one year for all affiliating institutions by the clinical center staff itself, using appropriate sections of Appendix B.
  3.2.3.4 By periodic reassessment by the clinical center staff, using appropriate sections of Appendix B.
  3.2.3.5 By periodic reassessment by faculty members in the educational institution, based on all objectives of the curriculum, using feedback data from actual experiences of students at the end of the year and follow-up data on graduates of the curriculum. The process should include contrasting curriculum objectives to clinical education objectives and to the actual learning experiences utilized.
  3.2.3.6 By a variety of devices developed and used depending upon the scope to be evaluated.

Step 4. Implement processes for evaluation of learning experiences, collect data, and interpret data according to a master plan designed by the ACCE assisted by the clinical education or curriculum committee.

Step 5. Feedback results, using mechanisms and actual outputs based on actions occurring in Steps 3 and 4 above. Information should go to all concerned, and it should include an analysis of learning experiences available and utilized, as well as the quality and appropriateness of those utilized. In addition, it is valuable to know why learning experiences that seem to be desirable are not or cannot be utilized.

Step 6. Modify objectives and identify new desired outputs which can be effective for:

6.1 A student currently on an assignment or anticipating the next assignment.
6.2 The assignment of a group of students from one educational institution.
6.3 The assignment of groups of students from several educational institutions to a clinical center.
6.4 A change in curriculum objectives or acknowledging an inability to implement existing objectives and making necessary adjustments.
6.5 When resources in the clinical center change.

Step 7. Implement change when desirable and identify new processes involving any of the following types of actions:

7.1 Modifying programs by changes in learning experiences made available to one student or a group of students.
7.2 Reinforcing and strengthening the learning experiences.
7.3 Modifying the design of clinical education in a specific clinical center if learning experiences cannot be changed.
7.4 Adding learning experiences as needed and available.
7.5 Dissolving the affiliation agreement if desired objectives cannot be attained by securing the needed learning experiences.
7.6 Modifying the design of the curriculum if it is impossible to implement the desired learning experiences.

Evaluation of Curriculum

Recommendation: Greater efforts should be made to assess the actual outcomes of the curriculum for students in physical therapy by systematically and regularly evaluating all phases of the curriculum and the graduates.

Recommendation: Each educational institution should maintain a curriculum committee, composed of persons with a cross section of interests, charged with the responsibility of expediting the evaluation program.

Evaluation of the curriculum in physical therapy should receive greater attention from educators. This evaluation should include all components of the curriculum and should involve those persons associated with clinical education since they are an integral part of the total educational program. Those associated with this Project do not believe it wise to evaluate the clinical education component of the curriculum separately from the entire curriculum of which it is a part.

Curriculum evaluation is needed for each educational institution in order to determine the degree of success achieved in meeting predetermined objectives; to identify the causes of discrepancies, if any, between actual outcomes and the desired outcomes previously determined; and to learn whether or not the objectives of the curriculum are appropriate to the day and time. *(068, 179, 197)*

Unless the process of curriculum evaluation is systematically preplanned and scheduled and responsibility for its execution included in job descriptions or charges to committees, it is frequently neglected. Educators associated with physical therapy should be familiar with the literature on curriculum evaluation which is abundant, but still advice of a person considered an expert in curriculum design and implementation is recommended as a wise investment. An established ongoing process is easier and more effective than occasionally mounting an episodic effort or crash program. *(171, 216)* For educators to state that there is no time to evaluate the curriculum because of busy schedules is to cast doubts on the entire educational undertaking.

The seven-step outline format used previously here in Section D can be applied to establishing and maintaining a constructive evaluation program for the curriculum.

Step 1. Determine the objectives (desired outcomes) of curriculum evaluation, which may include some or all of the following:

1.1 To ascertain if the graduates of the curriculum are meeting curriculum objectives.
1.2 To ascertain if curriculum objectives are appropriate to society and to the students.
1.3 To ascertain if the design of the curriculum is appropriate and effective.
1.4 To promote consumer sensitivity to educational endeavors and needs.
1.5 To stimulate, motivate, and encourage all those individuals associated with the curriculum.
1.6 To assess the design of health manpower systems and the roles of the graduates in physical therapy.
1.7 To assess the design of professional governance of health personnel, education, and voluntary associations.
1.8 To provide useful information to students concerning their future careers.

Step 2. Determine criteria (desired inputs) for the objectives of the curriculum evaluation program in order for judgments to be made. The criteria can be drawn from:

2.1 The objectives of the curriculum.
2.2 The needs of society for health care.
2.3 The needs of the graduates in physical therapy.
2.4 The needs of the profession.
2.5 The design of the curriculum, including its clinical education components.
2.6 The execution of the curriculum, including its clinical education components.

Step 3. Determine processes to be followed and develop techniques and devices to be utilized in executing the curriculum evaluation program.

- 3.1 Involve academic and clinical faculty, students, graduates, and consumers of physical therapy services in varying degrees depending on the time or the effort and the focus of the unit or issue under study.
- 3.2 Determine when and for what purpose the techniques or the processes ought to be instituted.
  - 3.2.1 Periodic diagnostic assessments of the total curriculum and its components should be carried out.
  - 3.2.2 Formative evaluation of the curriculum by course, unit, or term (including clinical education assignments) can be carried out on both a formal and informal basis.
  - 3.2.3 Summative evaluation of the curriculum by unit, term, semester, or year can be carried out:
    - 3.2.3.1 At the end of a unit, term, or semester by a variety of special techniques with input from students, clinical faculty, and academic faculty.
    - 3.2.3.2 By a comprehensive examination or an assessment of all student records at the end of the curriculum year by students and faculty.
    - 3.2.3.3 By assessment of performance on certifying or licensing examinations.
    - 3.2.3.4 By graduates of the curriculum from one to five years after graduation in a formalized process.
    - 3.2.3.5 By peers, supervisors, employers, and consumers of the services of the graduates from one to five years after graduation by formal methodologies.
    - 3.2.3.6 By an annual assessment of the curriculum and all of its components by a curriculum committee using a systematic approach on a formal basis and a massive effort every five years.
    - 3.2.3.7 By assessing the size and causes of the attrition rate from the curriculum.

Step 4. Implement the processes for evaluating the curriculum and collect and interpret data according to a master plan designed by the curriculum committee or appropriate group and involving all of those associated with the clinical education component of the total curriculum.

Step 5. Feedback results of the curriculum evaluation to:

- 5.1 Students, clinical faculty, and the faculty in educational institutions.
- 5.2 Administrators in educational institutions and clinical centers as appropriate.
- 5.3 Consumers of the services of the curriculum and the graduates as appropriate.
- 5.4 Professional associations and colleagues concerned with education and service as appropriate.

Step 6. Modify objectives and identify new desired outputs based on analysis of the information which has been gathered, interpreted, and shared with appropriate individuals. New curriculum objectives might be for:

6.1 A unit or a course.
6.2 An entire class of students for one year.
6.3 Future classes of students.
6.4 Recruitment of new students.

Step 7. Implement change when desirable and identify new processes, which can include some or all of the following types of actions.

7.1 Modifications may be made by students and/or faculty members (including academic and clinical).
7.2 Reinforcements may be made to the strengths of the curriculum.
7.3 Changes may involve an assignment, a unit, a course, a term, or an entire year's curriculum.
7.4 Complete revision of the curriculum may be indicated.

A Final Word

Evaluation is a logical topic for concluding Chapter 2's overview of the outcomes of the Project on Clinical Education in Physical Therapy, for evaluation overlaps all the topics considered by the Project. More than overlap is involved, however, because a viable evaluation program--including active, ongoing, and participative utilization of results in decisions large and small--can be what holds the entire educational enterprise together through the inevitable forces of changing society.

The following Chapters 3 through 6 follow the same sequence of subject matter as the present chapter--the place, the people, the process, and evaluation. These ensuing chapters discuss the topics in considerable detail and present supporting information gleaned from all sources available to the Project.

Chapter 3

THE CLINICAL EDUCATION SITE

Section A of the preceding chapter presents the conclusions and recommendations of the Project on Clinical Education in Physical Therapy with respect to the selection and development of clinical education sites (pages 2-2 - 2-14). Here in Chapter 3 the deliberations of the Project are discussed in some detail, and resource materials from several sources are presented with reference to the settings for clinical education in physical therapy.

Some basic considerations on clinical education as part of the total curriculum appear first, followed by a major section covering patterns, problems, and opportunities in the utilization of various clinical sites for education. The chapter concludes with descriptive material on the current characteristics of six types of clinical education sites.

BASIC CONSIDERATIONS

Since clinical education is an intrinsic part of the total curriculum, it is appropriate here to review some fundamentals on which curriculums are built. *(221)* Curriculums should be designed so as to fulfill the needs and the requirements of (a) society, (b) students, (c) specialists, and (d) professional standards. *(194)* These four areas overlap and change continually as should the resulting curriculums.

Society. Consumers want skilled and considerate care where they live and when they need it. Existing health care plans already include outreach programs, rural health, neighborhood health clinics, and community health projects--primary entry points to the health care system. Additional population groups that need physical therapy services include the mentally retarded, mentally ill, high-risk infants, preschool and school age children, student athletes, geriatric citizens, the chronically ill, and people with cardiovascular problems, as well as patients in acute care institutions and rehabilitation centers. To serve all of these requires additional specialization and expansion of services; the curriculum must be responsive. *(112, 071, 228, 052, 040, 161, 244)*

Students. The current literature emphasizes the students' individual learning needs, as reflected in such phrases as learner-oriented education, individual motivation, self-paced learning, and individual learning styles. In order to work effectively together after graduation, students need also to learn together through interdisciplinary education, both in the classroom and in the clinical situation, with a broader range of health professionals and other personnel. Off-campus learning in real-life situations is essential if students are to see society's needs at first hand. Off-campus affiliations have been a part of physical therapy education for decades, but as the scope of services continues to expand, so must the scope of sites selected for clinical education.

Specialists. Health specialists are usually identified according to the classification of their patients' or clients' needs by age, level of care, and by the disease, injury, or disability. The age range of patients encompasses the prenatal period through the entire life cycle. The level of care encompasses prevention through the continuum of health care services. The third classification deals with a broad scope of injuries, disabilities, and diseases. There are specific needs for physical therapy specialists which cannot be ignored by educators. According to the University of North Carolina at Chapel Hill (UNC-CH) study, the consensus is that the student physical therapist should be given the opportunity to concentrate in an area of special interest if he or she wishes; most educators agree, however, that the physical therapist assistant student should not have that opportunity.

Professional standards. All professions identify the minimum standards on which professional education should be judged for certification or accreditation purposes. However, the minimum is a poor goal. Curriculums based merely on today's task analysis or minimum educational standards may ill prepare students for tomorrow's needs or for their own growth potential. Flexible curriculums, adaptable to adjusting population needs, must be the basis for professional standards to meet changing patterns of the health care delivery system. The academically prepared student is better able to benefit from clinical education than one who is not. *(153)*

As set forth in Section C of Chapter 2, and discussed at length in Chapter 5, "The Process of Clinical Education," curriculums should be formulated on a philosophy developed by the faculties in their own institutions. The philosophy of the physical therapy curriculum is determined by the needs of society, students, specialists, and professional standards; it should be developed through input by all the faculty, both academic and clinical, and by the students. Building on the philosophical base, the overall behavioral objectives of the curriculum should emerge. Each learning experience along the continuum of the entire curriculum should be designed around behavioral objectives. *(194, 044, 221, 077, 067, 072, 018)*

Objectives

"Clinical education in physical therapy is the process by which the student is given opportunities to learn to apply knowledge, develop attitudes, and practice skills in a clinical setting." *(077)* Clinical education should provide learning experiences to help the student meet the objectives not only of the unit of the curriculum, but also of the entire curriculum. Objectives of clinical education can presently be studied by examining the specific documents made available to the Project by educational administrators; 56 percent of the physical therapist assistant programs and 71 percent of the physical therapist programs existing in the fall of 1974 submitted usable information on objectives in clinical education.

These objectives are placed in topical categories showing frequency of their appearance in Table 3.1; the ranking by frequency of each objective is shown in Table 3.2. An examination of these tables shows that objectives for the clinical education phase of the curriculum are primarily focused in the areas of direct patient care, interpersonal relations and communications, professional attitudes and ethics, administration, integration of didactic and clinical education, personal qualities, and teaching and supervisory skills.

The educational objectives of physical therapist assistant programs most frequently included objectives related to patient care, interpersonal relations and communication, professional attitudes and ethics, and integration of didactic and clinical education.

Objectives related to patient care are still paramount for the students in physical therapy, and objectives related to interpersonal relations and communications are the next most important, regardless of whether the student is beginning, intermediate, or advanced. Priorities for other objectives change significantly depending on the level of the learner. For instance, objectives relating to administration rank high for the advanced physical therapy student, but low for the beginning student. The integration of didactic and clinical education ranks high for the advanced assistant student, but not as high for the beginning assistant student.

At regular intervals educators should compare their total curriculum objectives with those for the clinical education program, then compare these with the product standards developed by the American Physical Therapy Association (APTA), checking for continuity, sequence, and coverage. (011)

The clinical education site to which the student is assigned has its own objectives. Lists of objectives of the clinical center as a whole were submitted to the Project by 114 clinical centers. There were many objectives that did not relate to education, as could be expected; 29 respondents did not include any objectives related to education; 67 reported educational objectives for students in physical therapy, 66 for other than physical therapy students, 64 for continuing education of staff, 26 for the community, 13 directed to nonemployee professionals, and only 6 for the patient and/or his/her family.

An analysis was also made of the educational objectives of the physical therapy service, which were submitted by 205 clinical centers; 27 respondents listed no educational objectives, but 177 reported objectives for the professional growth of their own staff and 103 referred to personnel other than physical therapy--professional and otherwise. Only 99 had objectives which related to education of students in physical therapy. Of the others, 87 had educational objectives related to patients, 44 to the community, 34 to family members, 33 to other or unspecified types of persons, and 4 to general education. It is interesting to note that "Standards of a Physical Therapy Service" adopted by the APTA in 1971 mentions only the continuing education role of the service; there is no mention of basic clinical education. (012)

In addition to the overall objectives for the service, 159 centers submitted lists of objectives for clinical education in their physical therapy services. Educational objectives by subject matter are tabulated in Table 3.3 by frequency and by level of education of the student. Table 3.4 shows the rank of objectives by the frequency of their appearance by type of educational program and also by the level of student.

The clinical education objectives cited by clinical centers which appeared most frequently related directly to patient care, then in descending order to interpersonal relations, communications, and administration. The rank and frequency of occurrence of educational objectives are fairly compatible with those from the educational sending institution, as reported in Tables 3.1 and 3.2.

From the clinical center's viewpoint, there are some problems in achieving these objectives. In the UNC-CH study, 52 percent of the 250 center coordinators of clinical education (CCCEs) who responded reported that the length of the affiliation was too short to accomplish these objectives, and 40 percent felt that they lacked time in the day to permit the student to perform all of the activities necessary to fulfill the objectives.

Regardless of the manner in which clinical education is arranged, integrated, synthesized, and made part of the total curriculum, the specific objectives should take their direction from the overall objectives of the curriculum. They must be compatible with the basic philosophy and objectives of the entire curriculum. Regardless of derivation, objectives for clinical education should be expressed in behavioral terms, in terms of the learner, and with concern for the competencies of the end-product of the curriculum. *(221, 067, 072, 044, 194, 139)*

Many educators in physical therapy today use for the basis of their work the proceedings of the Council of Physical Therapy School Directors institutes of the 60s and the institutes sponsored by the Vocational Rehabilitation Administration and the American Physical Therapy Association, as well as other publications of the American Physical Therapy Association. The earlier institutes emphasized behavioral objectives, while the most recent publications of the American Physical Therapy Association emphasize the product standards. *(066-072, 016, 017-021, 011)*

There are few documents to assist an educator in planning curriculums especially for the physical therapist assistant. There is literature from the APTA which describes the role and function of the assistant, and educators use these materials as a basis for planning their educational objectives for clinical education as well as for their entire curriculum. *(008)*

Here in this chapter on the clinical education site it is important to note that students have their own objectives not only for enrolling in the educational program, but also for their assignments to clinical centers. Of the new graduates who responded to the UNC-CH study, 31 percent indicated that as advanced students they always had their own objectives, and 41 percent indicated that they usually did. Only 6 percent said that they had never formulated any objectives of their own. New graduates indicated that their objectives were usually given either verbally or in writing, upon arrival at their assigned centers. Only 12 percent of the new graduates indicated that their objectives were ignored.

The reader has already seen the Project's brief conclusions and recommendations on the role of education objectives (pages 2-27 - 2-30). It cannot be emphasized strongly enough that once they have been identified, objectives become valuable only if they are used to design learning experiences. *(077, 068)* The process of designing learning experiences to accomplish the objectives of the clinical education experience is not difficult and has been addressed in the literature and in workshops. In order for the learning experience to possess sequence and continuity, the objectives should be followed in the student's day-to-day learning experiences and assignments. If, for example, the curriculum objectives include activities in administration, there must be learning experiences in administering a physical therapy service. In point of fact, the subject of administration is useful as an illustration, because very few new graduates responding in the UNC-CH study believed that studying an annual or monthly report was useful to them, or that they were prepared to consult, design staff evaluations, design appropriate inservice education programs, perform internal audits, or supervise others--all activities considered part of the administrative capabilities of the new graduate, as reflected by the product standards and curriculum objectives.

The point in noting these particular needs for learning experiences is to emphasize that objectives for the overall curriculum and for the clinical education experience (including the student's own objectives) have little meaning unless implemented by planned learning experiences of the quality and quantity to permit the student to develop related competencies. This requires joint planning, mutually acceptable objectives, and complementary relationships between the staff in the educational institution and the staff in the clinical center.

PATTERNS, PROBLEMS, AND OPPORTUNITIES

The time to devote to clinical education is influenced by philosophic and pragmatic considerations, such as,where in the curriculum the learning experiences should occur, how to arrange the experiences, and why they are placed where they are. The answers to these questions are not always easy to determine. Concurrent learning may be a part of the philosophy of the faculty, but it may not be possible. When concurrent learning is not a part of the philosophy, the design of clinical education may be based on availability of clinical centers or other factors, such as cost. There are several basic patterns to the design of clinical education assignments.

Timing Considerations

The Project identified four types of concurrent programs.

1. One pattern calls for all clinical education to occur concurrently with didactic instruction, ruling out full-time block assignments.

2. Frequently there is a concurrent pattern which calls also for a full-time block assignment at the end of the curriculum prior to graduation.

3. A third pattern consists of a number of concurrent assignments plus the full-time block assignment in the middle of the curriculum.

4. A fourth design consists of some concurrent assignments and multiple full-time blocks interspersed throughout the curriculum.

The Project identified three patterns in those curriculums with no concurrent design.

1. Clinical education consisting of a final full-time block assignment.

2. One full-time block of clinical education in the middle of the curriculum--usually between the first and second years or between the junior and senior years.

3. Several full-time block assignments interspersed in the curriculum with no concurrent assignment.

The clinical experience may occur early in the curriculum, in the middle, late, or continuously. Different patterns of assignment exist for the beginning, intermediate, and advanced student. The design may be determined by whether the clinical centers are willing to accept students on a part-time or full-time basis over a 12-month period and whether they will accept students of different educational levels at the same time. The time pattern is also affected by the proximity of the educational institution to sufficient clinical centers for assignment of all of their students. Clinical learning experiences can be arranged from simple observation to participation in the activities of the service and from simple tasks to problem-solving tasks. When students are assigned to clinical centers for more advanced work, there are opportunities to pursue special treatment procedures and to develop competencies in administration, supervision, and teaching.

Although all the patterns described above were being utilized in 1974, a total of 63 percent of the physical therapist programs and 44 percent of the physical therapist assistant programs which sent in materials at the Project's request had arranged their clinical education in concurrent patterns with a final full-time block assignment. Fewer (26 percent of the physical therapist programs and one of the physical therapist assistant programs) used a concurrent plan with multiple full-time block assignments throughout the curriculum. Very few programs used the pattern of a final full-time block assignment with no other concurrent learning experiences; other patterns were reported less frequently (see Table A.2). It should be remembered that these are "soft data" and cannot be considered representative of all educational institutions, only a reflection of those educational programs that were willing to submit information or had materials readily available.

From the same source, it was learned that physical therapist students in 27 programs spent an average of 14.3 weeks in clinical education when the final full-time block experience was utilized, and that physical therapist assistant students in seven programs spent 7.9 weeks. The range for a physical therapist student was from 11 to 20 weeks and for an assistant student from 2 to 16 weeks (see Table A.3).

There has been discussion through the years about the heavy utilization of clinical centers during the summer months. There is a discrepancy in the information on the seasonal utilization of clinical sites between that received by the the Project in materials from the clinical centers and that which was reported by the UNC-CH study. Both sources indicate that February, March, April, and May were the heaviest months for assignments, but there was little agreement on the other months of the year. In the "soft-data" information, 26 percent of 180 clinical centers indicated that students were present 12 months of the year, but in the more reliable UNC-CH study a smaller proportion, 16 percent of the 350 responding centers, reported students present all 12 months; of the responding directors of physical therapy services, 43 percent said they would be willing to accept students any time during the year (see Tables B.1, D.3, and D.4).

Over half of the 130 new graduates in the UNC-CH study indicated they were usually satisifed with the length of their affiliations, but more than half the responding CCCEs felt that current affiliations were not long enough to accomplish objectives, as mentioned earlier. The length of most assignments for the beginning student or the advanced student is not known, but considerably more than half the responding CCCEs indicated that five to six weeks was desirable for the beginning student. For the advanced student, most CCCEs indicated that from seven to eight weeks was adequate. Nine weeks or more was considered too long for beginning students, and two weeks or less was considered too short for the same student. For the advanced student, three or four weeks was considered by the majority as being too short an assignment.

Complexities can result when students at different stages in the curriculum are assigned to a clinical center for the same period of time. The most difficult pattern to schedule and to manage is one with overlapping schedules for full-time and part-time students. Schedules which are simultaneous for full-time and part-time students are also difficult. Nonoverlapping full-time schedules are the easiest to manage, with simultaneous part-time schedules rated next in ease of scheduling. (See Appendix D, Table D.2 and D.4.)

In the UNC-CH study, directors of physical therapy services were most willing to accept full-time senior students in the full-time block; part-time senior or part-time juniors, came next, and they were least willing to accept full-time juniors or masters students from the basic preparation programs. Fewer than half of the directors indicated willingness to accept second-year physical therapist assistant students and fewer still indicated willingness to accept first-year assistant students. Less than half of the directors indicated willingness to accept graduate students at the advanced preparation level for any kind of clinical experience. When asked if the center was willing to accept affiliating students from physical therapist and physical therapist assistant programs at the same time, 63 percent of the directors said no. When asked if the center was willing to accept two levels of students at the same time, 52 percent said no.

Three fourths of the CCCEs employed some kind of formula in determining the number of students who can affiliate with the clinical center at any one time. The ratio was one student to one staff therapist for beginning students; the ratio for senior students tended to be two students to one staff physical therapist. Three fourths of the CCCEs indicated they can accommodate a maximum of two students in a single period of time, but the range of reported numbers of students who can be accommodated at any one time extended as high as 20. Approximately one third of the directors of physical therapy services indicated that consideration had to be given to the number of staff vacancies, staff willingness to work with students, the number of students who had previously or had just recently been in the center, staff experience, and the type of schedule; 28 percent of the directors indicated that the number of students accepted would depend upon the number of available patients of sufficient interest and on the projected patient load.

Constraints

Educators are concerned about a number of factors affecting their ability to provide the types of clinical education programs needed by their students, including the sometimes inferior quality of the programs at available clinical education sites. In the UNC-CH study, they reported that desirably located clinical centers are often crowded with students from other institutions, and that some impose added costs on the student or on the educational institution. As discussed later in this chapter, some of these problems were more prevalent in certain geographic areas and types of sites than in others, and some were more imagined than real. The areas of greatest unmet need identified by educators concerned rehabilitation centers and programs in pediatrics, particularly early childhood programs.

In the UNC-CH study, fewer than 10 percent of the clinical centers responding were chronic disease hospitals, mental retardation facilities, mental health facilities, public health agencies, geriatric centers, private practices, geriatric centers for the chronically ill, day-care centers for pediatrics, day-care centers for geriatrics, and outreach clinics. Such sparse use in physical therapy education of centers devoted to primary care, mental health, community health, chronic illness, geriatric care, and day care for the young and the aged, means that too many of our students have not been exposed to the large number of patients receiving health care in these kinds of settings. Failure to see and react to this need may account for some of the present unmet educational needs of physical therapy students, but it must be acknowledged that in many settings where the need has been identified there have not been enough physical therapists to provide educational experiences for the students. (052) The availability and development of clinical education sites need further analysis, as recommended by the Project.

The quality of some available clinical education sites has been a constraint on student placement. Students expect and demand adequate educational experiences in high-quality rehabilitation centers, progressive pediatric programs, and good teaching hospitals, both community based and university centered. In many of the less frequently used types of clinical centers, the staff as well as the patients or clients are too few in number for the large number of students to be accommodated.

Distance between the educational institution and the clinical center is also a factor for consideration. The Project concluded that the time involved for the faculty from the educational institution to travel to the clinical center for joint planning activities and for routine communication with the clinical staff must be within reason, and the same is true for the clinical faculty member who must come to the educational institution for supervisors meetings, workshops, seminars, and committee meetings. Travel cost can be a constraint also.

Time and the availability of transportation for the students to travel to part-day and half-day assignments in their own communities can be a problem in terms of expense and inconvenience. Some programs are arranged so that students may take one full day a week for community health assignments, rather than part-day or half-day assignments, in order to alleviate travel problems. A recent study of nursing education indicated that most student nurses affiliate within a 25-mile radius of their parent school; such an arrangement is frequently impossible or undesirable in physical therapy education. (227)

Frequently not acknowledged but important to state-supported and community-supported institutions is the desirability of affiliating with agencies within their governmental jurisdiction. Since many community colleges are supported by local governments, their faculties look to nearby agencies for the clinical education of their students. Some state-supported higher education institutions look to agencies within the state for their clinical education needs, and benefits accrue to both institutions involved in clinical education. State-supported educational institutions can be of service to the state as their faculties assist in developing clinical programs which are beneficial to the taxpayers of their constituency.

Utilization Patterns and Planning

In the information available to the Project, educational administrators identified 1671 clinical centers as affiliated with 84 percent of the educational programs for physical therapy students. Each educational institution affiliated with an average of 34 clinical centers, with a range of 4 to 165 centers per institution. Each of the clinical centers, on the other hand, affiliated with approximately two schools each; the range of these affiliations was from 1 to 22. More startling, however, is that 1037 clinical centers, or over 50 percent affiliated with only one educational program. (160) Tables 3.5 and 3.6 present further information.

Appendix D contains considerable data indicating underutilization of existing clinical centers. Inefficient timing throughout all 12 months of the year is evident; for example, it might be said that clinical centers have students with them only 4 percent of the possible calendar months, if all the clinical centers were on 12-month schedules, which they are not. Eight was the median number of months of affiliation reported by the responding clinical centers in the UNC-CH study, which also revealed that the number of students assigned to a single clinical center ranged from 0 in some months to a high for one center of 43 students in the month of September (see Tables B.1 and D.3).

As previously reported, some clinical centers which serve clients and patients throughout the year were not willing to have students assigned to them for all 12 months. Some centers explained that they wanted a respite for the clinical staff--a time without students and clinical teaching responsibilities. The complex situation which exists and which is unique to physical therapy is also due in part to the fact that many clinical centers affiliate with more than one educational institution. Staff and clinical schedules must constantly adjust to different levels of students and varying lengths of assignments. The clinical center with students from one to two educational institutions operates at a different pace from the one with six to nine affiliations. This is in sharp contrast with clinical assignments in medicine, nursing, and dentistry, where usually students from only one academic institution affiliate and the arrangement may well be for a nine- to twelve-month school year.

The need for planning is evident, but there is little indication from any source that regional or master planning for utilization of clinical centers in physical therapy education is taking place on either a formal or informal basis in the United States. There have been some cooperative efforts. In one large city with several programs, clinical faculties combined for the purpose of jointly designing a universally acceptable evaluation device for students, but what effect this had on time patterns for clinical assignments is not known. (078) In another state three physical therapy educational programs combined their clinical faculty meetings, but there is no documented evidence of the effect of this on master planning or assigning students.

In the UNC-CH study the academic coordinators of clinical education (ACCEs) were asked if they would accept a clinical education site if it were approved by a physical therapist functioning as a regional coordinator of a state or geographic area; 62 percent gave provisional approval to the idea, 34 percent said yes, and only 4 percent indicated an unwillingness to participate in such a plan. A similar question was not asked of the CCCE. The presence of an acceptable regional coordinator would not rule out the fact that other ways might exist for academic and clinical faculty to plan jointly for more effective utilization of badly needed resources. The issues are complex.

There have been informal regional efforts through the Section for Education to share assignment calendars for clinical affiliations. Such efforts may help to identify the underutilized clinical centers as well as the heavily obligated ones, but they do not address the need for additional service programs in locales where they do not currently exist.

The needs for regional planning for the education of students in health care involve many health-related disciplines. Current activities which attempt to implement the concept have taken their impetus from the 1970 Report of the Carnegie Commission on Higher Education. (053,083) One of the goals stated in the report is:

> expansion of the functions of university health science centers so that they can play a central role in coordinating and guiding health manpower education and cooperating with other agencies in the development of improved health care delivery systems in their regions.

University health science centers have begun to implement the recommendations of the Carnegie Commission. Medical schools and community agencies have identified many of their mutual concerns: the quality of health care, the organization and financing of costly health care functions, the research essential for improving the delivery of health care, and the need to expand the base of teaching. Several plans have evolved based on the original Carnegie Commission recommendations. These plans involve faculty from the medical schools and other units of academic health science centers, and practitioners from the local communities in interchanging roles. They also involve lay personnel engaged in activities associated with the delivery of care and serving on jointly sponsored committees established to implement programs. The plans described by Knowles (126), Phillips (183) and Pellegrino (180) are all designed to bring the community in closer liaison with the university for the benefit of both.

The community associated with the university health center can be geographically close to the medical center or removed from it. The University of Washington School of Medicine is involved in a four-state regional plan of education and service, and Duke University is involved with a rural health program for the broadening of its service and educational commitments. (229, 085) Somewhat less ambitious plans, but nevertheless plans involving educational institutions and community agencies, have evolved in allied health (039), dietetics (195), radiologic technology (104), medical records administration (038), and practical nursing. (191) The formal inter-institutional planning which now exists between the Veterans Administration and certain public and community resources is another effort to coordinate public and federal institutions, facilities, and personnel. (167)

The most vivid example of formal regional planning to take effect nationwide was made possible by the Comprehensive Health Manpower Training Act of 1971, which provided for cooperative efforts by health service organizations and educational institutions to serve students and communities and involve the practicing health professionals already in the community. (224) The consortiums provided for in this Act, which encompassed health professionals in several fields, could be established at some distance from the parent or sponsoring health science center and still utilize the health science center's resources. By 1972, 11 Area Health Education Centers (AHEC) had been created as a result of that first legislation.

Unfortunately, in most of the original AHEC plans there was little if any emphasis on the allied health professions. A basic plan described one program as designed: (a) to expand the education of the health student into local environments for real-life situations off campus, removed from the parent health center; (b) to assist local educational institutions in the education of health students in local colleges, universities, hospitals, and community colleges in the area; (c) to upgrade through continuing education the competencies of the health practitioners residing and practicing in the local AHEC region; and (d) to offer the resources of the university health center to the local AHEC for the improvement of health services, education, and the development of an improved health care delivery system. (026)

Many of these regional activites could quite possibly be utilized for state-wide or regional planning for the clinical education of students in physical therapy. At the same time they could be useful for upgrading local services and improving the continuing education programs of the profession. Needs are similar for the health professions; the different ingredient in physical therapy which makes the situation more complex is that many educational institutions would be involved, as well as many clinical centers. It is easier, perhaps, for the single medical school or university health sciences center to arrange an effective consortium of agencies, but the effort might wisely be made by physical therapy educators and practitioners in a state, a region within a state, or a multistate region of the United States.

Opportunities in Clinical Centers

There is no fixed definition of traditional physical therapy clinical education versus nontraditional. The two terms evoke images which may be unfair and stereotyped; they simply differentiate current-day practices and modifications from the practices of a decade or two ago. The point in time at which a nontraditional plan becomes generally accepted as traditional is unpredictable.

The traditional education experience in physical therapy has almost exclusively focused on patient care on a one-to-one basis--a "hands-on experience." There was little emphasis in the 40s or 50s on other roles. Skills in administration, management, supervision, teaching and consulting, and some other areas were either not expected or expected to be learned on the job or through continuing or graduate education. This restricted view of physical therapy is still held by some.

Clinical education traditionally took place in fixed facilities such as hospitals, crippled children centers, rehabilitation centers, and military and veterans hospitals. Few clinical centers were utilized for the clinical education of the student other than the primary one associated with the educational institution. The student had certain required affiliations or assignments, and clinical education in many, if not in most of the programs, came late in the educational experience, usually in a full-time block assignment. All students were expected to complete essentially the same educational program within the same period of time and, with few exceptions, to perform identical duties.

Although the above description may be simplistic, it provides the framework for a discussion of current activities and present needs for clinical sites.

The nontraditional education experience reflects the changing environment, the changing health care delivery system with its increasing numbers and types of health professionals, and the broader range of services demanded by the public. Care of the individual patient, though still important for the physical therapy student, has expanded into new roles, as evidenced by the objectives of most of the curriculums and by the product standards produced by the APTA. (011) There is more emphasis on working with groups--pregnant women, children, spinal-cord lesion patients, the elderly, hemiplegic patients, and retardates. With the emergence of the physical therapist assistant, opportunities exist for a greater range of services and levels of care performed by both physical therapists and assistants; expanded use of on-the-job trained aides has contributed to these opportunities.
Many clinical centers, agencies, and programs are now being utilized on this expanding health scene for broader-based education, but more are needed.

The students now play a greater role in their own education. They are frequently given choices; they may request specific placement; they may spend varying lengths of time on assignments of their choice. Students are given opportunities for in-depth experiences in areas of special interest or concentration. Opportunities are provided for more self-paced learning, for more voice in selecting the objectives of their own education, more freedom to learn at individual speed in individual fashion.

The Worthingham studies of the mid-60s emphasized comprehensive, continuous, and coordinating care. These three C's are no less important today and should be reemphasized, as should the three A's of availability, accessibility, and acceptability of care rendered. *(244)* Unfortunately, much that was recommended in the Worthingham studies has not been implemented, and changes in general are slow and inadequate.

Educators advise that nontraditional clinical education begin in the early phases of the curriculum *(040, 214, 066)* and that it be synchronized with expanded course work which complements the roles and experiences of present-day students. A flexible curriculum is recommended, with experimental and demonstration programs spread throughout the year. *(043)* Interdisciplinary educational opportunities, both in the classroom and in the clinic, have been recommended repeatedly for health professionals *(236, 175, 076, 049)*, and there have been pleas to lengthen the period of clinical education.

An internship of six months to a year is recommended by Nethery for all physical therapy students. *(172)* She proposes to change the terminology from "clinical education" to "internship," because this term does not imply limiting learning experiences to those strictly related to patient care. Her proposed internship should be provided in a primary institution, possibly one affiliated with satellite institutions, offering learning experiences for all physical therapy roles. This Project uses the term, "internship," as the APTA does, to mean a postgraduate experience following completion of curriculum requirements.

The literature in physical therapy, occupational therapy, and nursing has repeatedly emphasized the expanding responsibilities of these health workers to include activities in screening, supervision, administration, consultation, research, leadership, innovation, interpretation, referral, and education. *(172, 077, 011, 098, 228, 121, 066, 102, 202, 041, 154, 003)* The list is long and leaves the educator with the perplexing task of accepting or rejecting these responsibilities and educational commitments, decisions which influence the educational utilization of clinical centers.

The old stereotyped view of the physical therapy practitioner functioning in the narrow confines of a very limited clinical environment is now forced to accommodate the emerging role of someone actively engaged in the prevention of illness and the maintenance of health. Early intervention programs, screening programs for mothers-to-be and children, preschool and school activities, sports medicine programs for secondary and college age students are a few of the newer areas in which physical therapy practitioners are or should be involved. *(062, 202, 184, 066, 095, 003, 244)*

Those who stress this need for service along the continuum of health care also emphasize the need for a greater depth of understanding of the social setting and its relationship to the health status of the population to be served. Shepard describes how a curriculum can be modified to provide the dimension of continuing care. Another curriculum modification is described by Parker to accomplish somewhat the same goals. Emphasized most in recent literature are the needs for expanding health care in the community, with emphasis on primary care to meet the needs of the underserved and disadvantaged population groups in urban and rural areas and other special groups.

Most of the literature addresses education of the medical students, but much is written also about the need for interdisciplinary education. (066, 076, 081, 082, 234, 230, 175, 192) The dental student is included in this trend toward preparing practitioners for nontraditional settings (043), and Cady speaks at length on rural preceptorships in allied health education to influence the current negative perception of rural practice held by students in allied health as well as medicine. (049) The American Association of Junior Colleges conducted an extensive survey of the opportunities and obligations of junior colleges to prepare their graduates for primary care situations. Hawthorne's report develops the premise of the role of the community college, based on the philosophy that increased access to primary and ambulatory care will be achieved only when competent personnel are working effectively together in the right place at the right time to meet the needs as they arise. (100) Physical therapy has not neglected community health, but it has not addressed itself to that element called primary health care to any degree, at least as mirrored to date by the literature.

It is correct to say that basic physical therapy education has avoided the development of specialists and has preferred to prepare the generalist. It seems evident, however, that the time for addressing the education of the specialist in physical therapy is here; the demand is growing. Specialization is recognized as a real need by a growing number of special interest groups in the APTA and by the increasing needs and desires of graduate students.

The danger in expansion and growth in the ways mentioned above is in stretching curriculums too thin, attempting to do too much in too little available time, and failing to insure enough depth and quality. Choices must be made, but somehow a master regional or national plan must be designed in order that basic students are prepared for their general, administrative, community, and specialty roles. Whether the design of the program in clinical education is called traditional or nontraditional is irrelevant; new curriculums by whatever name must be designed and implemented. The Project concluded that a closer look at the manner in which curriculums are designed and implemented appears indicated.

Meeting the demands described above for expanded roles, continuing care, interdisciplinary education, and specialization requires that renewed attention be focused on the acute need for substantial numbers and varieties of clinical centers and opportunities for learning experiences.

Site Selection Factors

Guidelines and Opinions

There have been some national guidelines to assist educators in developing criteria for the selection of clinical education centers. The APTA materials on the physical therapist assistant program contain guidelines for the educator who is planning the clinical portion of the curriculum. These include recommendations for developing joint planning, a willingness to share in responsibilities, adequate staff, and optimum learning experiences. Criteria include requirements that the clinical centers be approved by the appropriate accrediting agencies, that the physical therapy service be under the direction of a physical therapist who meets the qualifications of the APTA, that the center and its physical therapy service contract to provide clinical experiences which meet goals developed jointly, and that the physical therapy service agree to be responsible for the supervision of the students in all situations where the educational institution does not provide a field supervisor. The ratio should not exceed two physical therapist assistant students to one physical therapist. *(008)*

In the APTA Guidelines for Physical Therapy Programs there are specific recommendations regarding the clinical centers. The clinical phase of the program must be under competent clinical direction (the statement does not specify that a physical therapist must be present). Although the didactic and clinical education may not occur in the same institution, the educational administrator shall be responsible for assuring that the activities assigned to students in the clinical setting are in fact educational. An effective ratio of students to instructors shall be maintained, but no specific ratio is offered. A primary institution for clinical education is specifically stated, but additional clinical affiliations are deemed essential. Staff in the center should be identified by qualifications (see Chapter 4 of this report). An annual review of the adequacy of clinical centers, those currently in use and those projected, is recommended. Appropriate modern equipment and supplies are requirements for both the clinic and the classroom. *(014)*

From the 1961 APTA-OVR Institute, specific criteria for clinical centers included the qualifications of staff personnel, interest and support of the medical staff, the presence of other participants from professional and other disciplines, the interest and support of the administration, adequate learning experiences, adequate space and equipment (including an accessible library), emergency medical care, and well-defined lines of administrative authority. The acceptable center was also described as being accessible to and in proximity to the educational institution. *(016)*

Both public and community health experiences were recommended by the Council of Physical Therapy School Directors, which urged that undergraduate programs provide students with the basis for adaptation to the various settings in which physical therapists work. *(066)*

Pascasio indicates that clinical centers are needed for initial learning, reinforcement, continued learning, and for internships; the clinical experience should begin early in the student's education and be continuous throughout. She recommends that clinical centers be reviewed regularly to assess their educational programs, the adequacy of patients and staff for the numbers of students present, the adequacy of space for student practice and for conferences, as well as the willingness of persons in the clinical center to evaluate the students. She, too, believes that the clinical centers should be in close geographic proximity to the educational institution in order for good communication to occur. The center must be accessible from the standpoint of both time and money for the students and the personnel in both institutions. *(177)*

Others urge that sites be selected where interdisciplinary learning can be designed. *(202, 158)* A 1960 publication of the World Health Organization on the use of health services in medical education is a thoughtful document that can be of benefit to many health educators. The limitations in utilizing only hospitals in the education of health personnel are recognized. Hospitals primarily provide sick care, but they are also valuable because they possess the opportunity for interdisciplinary education and the facilities for post-graduate research.

The American Hospital Association recommends that the educational institution's contractual agreement should emanate from the governing board of the hospital, based on societal and community needs. *(005)* Although guidelines and suggestions from others can assist the educator in designing clinical education programs, the specific criteria by which the centers would be selected remain the sole responsibility of the educational institution, although the final commitment for contractual relations still remains with the clinical center.

At the time of the Worthingham studies, only 552 clinical centers were reported to be affiliated with the existing educational programs. This number has grown to 1671 reported by 84 percent of the educational programs existing in December of 1974. The earlier study identified institutions by their financial sponsorship and not by type. Other characteristics of staff, sources of referral, equipment, and patients were described. Because of the differences in design and data collection, comparison with the UNC-CH study is limited.

Educators should not only develop the criteria upon which clinical centers are selected for the placement of their students, but they also should negotiate contractual arrangements between the two institutions to implement the program. Specific guidelines for the process by which academic faculty and clinical faculty investigate possibilities for establishing an affiliation agreement address the subjects of philosophy, administration, time allocations, privileges of students, direction of the service, physical facilities, professional and support personnel and their qualifications, staffing patterns, and individual responsiblities. Questions related to the qualifications of the clinical instructors (CIs), their time commitments, authority, and personal commitment should be asked. Discussions between people at educational institution and clinical institution should involve the types of services rendered and the availability of associated educational experiences, including inservice education, case conferences, home instruction, specialty clinics, seminars, workshops, and demonstrations. Special attention should be paid to the orientation process of the assigned students.

Table 3.7 shows some interesting points about clinical site selection from the educational institution's viewpoint. The ACCEs responding to the UNC-CH study reported that much of their attention and activity was devoted to finding clinical education sites and arranging adequate programs. Many ACCEs were interested in more affiliations to serve rural, inner-city, and homebound patients. However, most of those who responded felt that they were already affiliating with enough types of centers. By a large majority, educational programs required that students be assigned to hospitals and rehabilitation centers; only 6 percent of the ACCEs indicated that they had no fixed assignment requirements. No change was reported by large numbers of educational programs in their affiliation with outreach programs, health maintenance organizations, rural health care delivery, inner-city health care delivery, school screening programs, or other types of screening programs. The questionnaires did not provide the ACCE with an appropriate opportunity to indicate why these had not been added, so conclusions should be cautiously drawn. (Also see Tables 3.8 and 3.9.)

Almost two thirds of the ACCEs indicated that students were assigned to a specialist in some area of physical therapy practice. Most indicated that they were willing to add assignments which did not provide direct patient care experiences. Table 3.7 shows the types of personnel and types of programs that the ACCEs were willing to add to their clinical education program and those that they were unwilling to add to their activities. Student placements associated with different people included coordinators of services, fiscal officers, educators, administrators in a host of specialty areas and in voluntary and national organizations of great variety. Not all the respondents indicated willingness to expand to newer types of health care agencies and/or with other than physical therapy clinical instructors.

As reported by 75 percent of the ACCEs (Table 3.10), there was difficulty in arranging good clinical education sites for a variety of reasons: the site was too crowded with other students; the center was not receptive to students; the quality of the program was poor; the quality of the center's staff was poor; the atmosphere of learning was missing; the facility was too far away for adequate liaison. Lesser difficulties were attributed to the fact that the site did not have programs in the areas needed by the curriculum or that it was too costly either to the school or to the student. Out of necessity, many contracts were with centers considered of borderline quality.

Most of the ACCEs indicated that their institutions had at some time severed a relationship with a clinical center, and over half reported that affiliations had been terminated by the clinical centers. Factors which slow or deter the development of affiliation agreements include: physical therapy services are not available in selected facilities or agencies--the primary deterrent; the administrators in nontraditional centers are not receptive to the educational programs; nontraditional centers are undergoing too much change and subsequent instability to be prepared for an educational program; nontraditional centers want to emphasize patient care and are not interested in assuming teaching responsibilities; and programs are poorly designed for student learning (too much traveling and too much time in meetings).

The needs of beginning students for clinical education differ from the needs of advanced students, and student needs of course influence their placement in clinical centers. In considering factors relating to site selection and the development of new sites, individual student needs for specific learning experiences, the philosophy and educational objectives of the curriculum, and the numbers and types of students to be assigned are all relevant.

The ACCE has a complex and difficult task when dealing with increasing numbers of students in a complex health care delivery system.

The new graduates responding to the UNC-CH study indicated that they were given opportunities most of the time to choose their own assignment sites or to participate in that choice. Their choices were based on the kinds of learning experiences that were provided, not on personal considerations. Half of them chose centers close to home and family, and very few indicated a preference based on financial benefits expected from the center or based on an interesting or attractive social atmosphere. (See Table 4.14.)

Geographical Factors

The geographic distribution of identified clinical centers was studied to determine the utilization of facilities within a state in comparison with the availability of facilities reported by the National Center for Health Statistics, which yearly lists an inventory of hospitals, nursing homes, and other facilities; the presence or absence of a physical therapy service is noted only for the hospitals. An examination of the material from the 1973 survey does reveal something about the geographic distribution and utilization of available resources in selected categories. These materials were compared with the data submitted to the Project by the educational administrators, and five states were studied in more depth to indicate the availability of possible resources and their utilization. A representative group of states was selected for study. (See Tables E.1 - E.17.)

State A had one physical therapist education program and no physical therapist assistant program. It had 101 hospitals; 24 of them had physical therapy education; 42 of them had physical therapy services but did not affiliate with an educational program. There were 35 hospitals which did not have physical therapy services; most of these had fewer than 50 beds. State A had 303 other types of facilities, including 207 nursing and convalescent homes, only one of which had a student program. It had 35 resident facilities for the retarded with only one of these utilized in education. The one nursing home with a student program numbered between 100 and 200 beds, although there were several that had more than 200 beds. Still other types of services which were utilized in State A did not appear on the National Center for Health Statistics list but included: rehabilitation centers, voluntary treatment centers, private group practices, and a child development center.

State B had one physical therapist education program and one for physical therapist assistants. It had 136 hospitals, only 18 of which had educational associations; 85 additional hospitals had physical therapy services but no educational utilization. State B also had 466 nursing and convalescent homes, but only one had education; no other types of fixed facilities reported by the National Center for Health Statistics were utilized for education in that state.

State C had three physical therapist education programs and one for physical therapist assistants. It had 215 hospitals, 56 of them utilized for clinical education; 107, which had physical therapy services, were not utilized. There were 52 hospitals that reported no physical therapy services. There were 888 nursing or convalescent homes in State C--none of which had a student program. One out of the 17 resident facilities for the mentally retarded, and one of two resident facilities for the physically handicapped, were affiliated with educational programs. As in other states, private agencies sponsored by voluntary organizations and private rehabilitation centers were contracted.

State D had three physical therapist and one physical therapist assistant educational programs. It also had 167 hospitals, 37 utilized for clinical education, and 65 additional ones which had physical therapy services not utilized in education. Most of the hospitals not contracted were between 50 and 200 beds. There also were 66 hospitals which reported no physical therapy services. State D had 830 facilities that were classified as nursing, convalescent, or extended-care, only 5 of which were affiliated with educational programs. The state had 17 resident facilities for the mentally retarded, 4 of which were state supported and 3 of which were affiliated with educational institutions. In State D a variety of other types of health agencies had student programs, including private practice groups, the state board of health, local health departments, sports medicine programs, and group private practice situations involving both physicians and physical therapists.

State E had four physical therapist education programs and two assistant programs utilizing 52 hospitals out of the 523 in the state; 195 additional hospitals which were equipped with physical therapy services had no educational utilization. Of the 896 nursing homes, only one had education. Agencies supported by voluntary and philanthropic groups were utilized for clinical education, as were visiting nurse associations and private practices.

From this analysis of only five states, it is evident that there were 1142 hospitals, 58 percent of which had physical therapy services, but only 15 percent of those were affiliated with educational institutions. The figures also indicate that in four of the states reported, only seven extended-care facilities or nursing homes were affiliated with educational programs, and only six mental retardation facilities had student programs. Many unknown reasons no doubt contribute to this lack of involvement where such a large number of possibilities exists.

The data from this analysis and other sources suggest a tremendous number of untapped resources. Because of the importance of understanding the geographical factors involved, the distribution and utilization of clinical centers by a few representative educational institutions has been mapped for visual analysis. (See the maps in Appendix C.)

Different patterns of affiliation are employed by different physical therapist education programs. One institution reported that it had contractual agreements with 165 clinical centers, all in fairly close proximity to the educational institution. Some centers were located in adjacent states, but the distances were relatively short in comparison with distances traveled by students from other programs. Another institution, state supported, contracted exclusively with in-state health services. A second state-supported institution affiliated with 3 out-of-state clinical centers and with over 30 within the boundaries of the state. A contrasting pattern was shown by one privately supported institution which had contractual arrangements with clinical centers in many states from coast to coast. Two physical therapist assistant educational programs indicated that students were always assigned close to their parent institution and that only a small number of out-of-state centers were under contract.

The geographic location of a clinical center in relation to an educational program is important to both because of travel costs, liaison, and communication factors. Several of the clinical centers affiliated with more than ten educational programs. A rehabilitation center in New York City had 22 contractual agreements and students coming from long distances and a variety of states. One western hospital which affiliated with 18 educational programs had students from all corners of the United States, and there are others that were utilized by more than ten educational programs.

Directors of physical therapy services in the UNC-CH study were in strong agreement that affiliating with more than one educational program gave them advantages: a broader view of physical therapy education, a larger pool of consultants to call on, a greater stimulus for the staff and the program, and more exposure to new concepts. They also shared a common belief that the biggest disadvantage of affiliating with more than one program was the large number of evaluation forms with which they had to deal. They found more advantages to dealing with more than one institution than disadvantages. The areas on which they could not agree were disparity in goals, too many students to deal with, and a lack of privacy for their staff. (See Table D.24.)

Directors in the minority, those whose services affiliated with only one educational program, were asked the advantages of that arrangement. With a high rate of agreement they indicated that there were fewer school faculty and administrators to deal with, fewer evaluation forms, and fewer students; also they had better knowledge of the educational institution and had more unscheduled time for the staff. Disadvantages agreed upon by this minority group were: a more restricted view of physical therapy education, wasted resources in the clinic, and less intellectual stimulus for the staff.

As might be expected, there has been a rapid increase in utilization of clinical centers, with only 22 percent of responding centers having an affiliation prior to 1960, and 49 percent since 1970. There have been discontinued affiliations however. In the UNC-CH study, ACCEs, directors of physical therapy services, and CCCEs had contrasting views on why educational institutions or clinical centers had discontinued prior affiliations (Tables D.25 and D.26). Primary reasons given for the clinical center discontinuing an affiliation included staff shortages and ill-prepared students. The educational program discontinued relationships for reasons that included inadequate supervision in the clinical center, shortages of staff, changes in policy or staff, inadequate learning experiences, and a judgment that the clinical program was of poor quality.

Criteria for Selection

Some 39 criteria have been utilized by the ACCEs of physical therapy education programs in selecting sites for clinical education. These break down into four major categories and "miscellaneous," and they reflect strong interest in the following: (a) degree and kind of administrative support, (b) resources in patients and equipment, (c) qualifications and character of the physical therapy staff, and (d) availability and variety of clinical learning experiences.

Administrative interest or support refers to both clinical center and physical therapy service administration and to attitudinal and financial support items. Financial support may be exhibited by salary support for the full-time CCCE, indirect salary support for all clinical faculty by increasing the number of clinicians, free time for the clinical faculty for preparation and conferences, support services provided for students, and support for staff to attend educationally oriented short courses.

The second group of criteria is concerned with adequacy of resources to support good learning experiences for students--including physical facilities and appropriate types of patients and/or referrals to meet the objectives of an assignment or of the curriculum.

The third grouping involves physical therapy staff resources so that students may be exposed to practitioners who are competent and ethical role models. There was some expression of the idea that the student should be exposed to "proper attitudes."

The criteria in the category of clinical education learning experiences focus on student access to experiences in addition to patient care, e.g., activities associated with consultation, library research, integration of services, and other opportunities for developing additional competencies. The items in this group seem to suggest utilizing clinical centers where a broad scope of physical therapy is practiced.

Miscellaneous criteria considered in site selection include services available to the student, housing, food, and other conveniences. Generally the miscellaneous criteria were stated as items to be considered in site selection that were not essential in the sense that they had to be met before a site could be contracted with.

From the UNC-CH study, those items considered by the ACCE to be most crucial in the selection of sites were quite comparable to the "soft data" above and included: the quality of the physical therapy service, the quality of staff, interest of the staff in students, enthusiasm of the staff for its work, willingness of the staff to evaluate students, the presence of planned learning experiences, administrative support of clinical education, and communications with the school (see Table 3.11).

Evaluating the quality of services has depended on imperfect systems, but certain procedures can give an indication of quality control. Of the reporting physical therapy services in the UNC-CH study, 62 percent had undergone financial evaluations in the past year, mostly based on monthly fiscal reports; fewer than half were evaluated by internal audit or by cost-accounting analysis. Staff evaluation is another means of assessing the performance of a physical therapy service. However, fewer than half of the responding directors of physical therapy services indicated that they utilized formal evaluation; 90 percent of the services relied solely on informal evaluations of their staff. Only a few used the problem-oriented medical record and regular review of patient care statistics.

ACCE reports in the UNC-CH study indicated personal visits to the clinical centers were made for a variety of purposes, most importantly to observe the general tone and mood of the place. The personal appearance of the staff, the general appearance of the center, how well records are kept, both on patients and administrative matters, and the methods of assigning patients to staff members can be noted in a personal visit; likewise whether the service is run in an autocratic or democratic fashion. As for attempting to judge the quality of patient care, the ACCEs reported that they relied heavily on student reports and their own direct observations. It seems an obvious gap that a clinical center's own health services evaluation systems do not feed into the clinical education site selection process in physical therapy.

Evaluation is discussed at great length elsewhere in this report (notably Section D of Chapter 2 and Chapter 6), but it is because of the need for evaluation assistance in the selection and development of clinical education sites in physical therapy that the Project developed a set of standards. These standards, along with a self-assessment inventory as guidelines for their use, appear as Appendix B.

CHARACTERISTICS OF CURRENT SITES

The Project on Clinical Education considered information from various 1975 sources that described the clinical sites then currently used for physical therapy education. Some overall characteristics of these clinical centers appear first; then six types are discussed individually.

Overall Administrative Characteristics

Table 3.12, based on response to the UNC-CH study by directors of physical therapy services, shows that more than half of the clinical centers affiliated with educational institutions were teaching hospitals. These were the largest group. Private practices, geriatric chronic centers, and other kinds of outreach centers were the smallest group. Almost two thirds of the reporting institutions were voluntary nonprofit.

The directors of physical therapy services were asked about referrals of patients to the service. The highest number of referrals came from orthopedic surgery; the fewest came from psychiatry. In descending order the referring services were: orthopedics, internal medicine, physical medicine, general practice, neurology, neurosurgery, pediatrics, general surgery, rheumatology, cardiovascular, plastic surgery, thoracic surgery, and psychiatry (see Tables 3.13 and 3.14).

In order to make some assessment of the administrative level of the director of physical therapy service, a sample of tables of organization available in the "soft data" from the clinical centers was reviewed by the Project. From several hundred that were available, a total of 108 were analyzed, of which 36 showed the line of responsibility to a physician. Most of the physical therapy services were at the third level from the top; i.e., the physical therapy director related to an assistant director of a physician who in turn related to an associate director or other individual of like title. There were 68 tables of organization indicating that the line of responsibility from the director of physical therapy service was to an administrator who was nonmedical. A review of these shows that most directors here functioned at the second authority level from the top, relating to an associate director or someone who related directly to the administrator or executive director.

The Joint Commission for Accreditation of Hospitals indicates that a physician or advisory committee should have some responsibility for a physical therapy service. The presence or absence of a physician's name on the table of organization should be evaluated with this fact in mind, even though all responding centers were not hospitals. What appears on formal tables of organization does not necessarily reflect how organizations really function. It should, however, indicate to whom each individual reports in the line of authority on administrative matters, and some relationships were evident from the tables of organization. Unfortunately, many of the tables of organization which were evaluated were unclear, and relationships could not be determined.

Service Hours

Most clinical centers responding in the UNC-CH study were open only five days a week; fewer than one fourth operated on an extended-day coverage longer than an eight-hour day.

Space

Staff personnel had access in most instances to both the clinical center's library and a physical therapy one. Predictably, the service's library was used most frequently; the clinical center's library was used on a monthly basis, and only by one third of those reporting. Fewer than half made use of the library of the sending academic institution at any time, or of a county medical society or city library. A majority of the services had secretarial space, shared offices, and conference rooms. Administrative and staff space for other needs were in short supply.

Staff

Figures from the UNC-CH study relating to staff members cannot be directly compared with the Worthingham studies of the late 60s, because the present study separated staff members by job responsibility, rather than treating them as a single group. There does appear to be evidence of increased experience of clinical staff in physical therapy over the years.

Over half of the CIs were under 30 years of age, and half of the CCCEs were under 35, but the range of ages was broader for the CCCEs than for the CIs. Most directors of physical therapy services were between 25 and 39 years of age, with 59 percent under 39 years. (See Table D.30.)

As for sex, 65 percent of the directors of physical therapy services were female, which is lower than the figures for CCCEs or CIs where fully three fourths were female; 83 percent of the ACCEs were female. (See Table D.31.)

Other

Other information was received on clinical center equipment, staffing patterns, patient loads, and service characteristics. When treated as a whole, the figures tended to blur the distinctions among the 18 or more different types of agencies which were represented in the response group. Therefore, in order to make the characteristics of the clinical centers more vivid, six representative types were studied separately for presentation in the following sketches. These six represent inpatient, outpatient, community health, and specialized programs. They are the teaching hospital, rehabilitation center, pediatric outpatient center, extended-care facility, public health agency, and private practice.

Figures on staffing, patient load, and student coverage were available for October 1974 and for April 1975, but for discussion purposes only the April 1975 figures are utilized below, except where contrasts in data seem important. (Tables D.3 - D.23, Appendix D, give greater detail on the clinical centers and their characteristics. Also see Tables 3.13 and 3.14.)

Teaching Hospitals (N=138)

Approximately three quarters of the teaching hospitals affiliated with educational programs were in urban areas, fewer than a fourth in suburban areas, and only 5 percent in rural areas. Almost half gave six-day coverage, and 20 percent provided coverage seven days a week; 21 percent offered extended-day care. Only 2 percent of the physical therapy services were contracted to the teaching hospital. Most were voluntary, nonprofit institutions. Others were supported by a full range of voluntary and government support, with 18 percent federally supported. Almost one third affiliated with only one teaching institution.

Space

More than three fourths of the hospitals had secretarial space, but only one third had private offices for the director of physical therapy service. Over one half had conference rooms, and three fourths had libraries available.

Staff

Although the staff complements were found to range as high as 65 physical therapists, 22 physical therapist assistants, and 61 trained aides, the average teaching hospital had 8 physical therapists, 1 assistant, and 4 aides. In each category the number of staff members who worked with students was approximately 1 less than the total number in the group.

Patient Care

A mean of 117 patients per day were cared for; the mode for October 1974 was 70, 50 for April 1975. A few more outpatients came to the physical therapy service in teaching hospitals in April 1975 than in October 1974.

Three patients per day were treated out of the facilities.

Approximately three fourths of the patients were treated at the physical therapy service; fewer than one fourth were cared for at the bedside; 7 percent were taken care of in the hospital outpatient clinic. Even fewer were cared for in preventive screening clinics, patients' homes, or other physical therapy locales.

The director of physical therapy service treated 7 patients per day, half as many as did the CCCE. The teaching hospital staff physical therapist treated 2 patients a day more than the number treated by the CI, who had student responsibilities. Beginning, intermediate, and advanced students treated an average of 5 to 10 patients a day. Almost 50 percent of the patients were considered intermediate care; an almost equal number were short-term care and long-term care. Slightly more than 50 percent were adult patients; only 16 percent were classified as pediatric, and the remainder were geriatric.

Patients were referred to the physical therapy service from all services in medicine and surgery; the greatest number of referrals came from orthopedic surgeons (35 percent); the next largest was internal medicine (15 percent); followed by physical medicine (10 percent).

Students

Students were accommodated at some teaching hospitals all 12 months of the year, with assignments reaching a peak in the month of September, when 43 students were accommodated by one hospital. As in other clinical centers, the range of students affiliating at any one time was from 3 to 4 per month, with the highest number in February and the lowest number in August. More than three fourths of the time devoted to student assignments was scheduled for the full-time student.

In 1970, teaching hospitals had contractual relationships on an average with one in-state physical therapist educational program and one out-of-state physical therapist educational program. In 1974 there was one additional out-of-state program on the average contracting with the hospital. For the physical therapist assistant educational programs, there was a slight increase in the number of affiliations in-state in 1974 in comparison with 1970, and very little activity with out-of-state programs.

Equipment

As would be expected, teaching hospitals were very well equipped. Of all of the equipment available, most was used on a daily basis. The equipment reported to be present less than 50 percent of the time was EKG, low-volt therapeutic equipment, treadmills, vitalometers, walking tanks, pools,and moist air cabinets. All other types of equipment generally associated with a physical therapy service were present over 50 percent of the time.

Rehabilitation Centers (N=77)

Rehabilitation centers were predominantly located in urban areas; only a few were in suburban areas, and very few existed in rural areas. Over half provided services five days a week, and 35 percent gave six-day coverage; 70 percent gave eight-hour day coverage and a smaller number gave extended-day care. Only 4 percent of the physical therapy services were contracted to the rehabilitation center. Two thirds were voluntary nonprofit organizations, and the remainder were supported by a variety of governmental and voluntary mechanisms. Of the rehabilitation centers, 21 percent affiliated with only one educational program.

Space

Most rehabilitation centers reported that they had secretarial space, but only one fourth had a private office for the director. Most, but not all, had a conference room and a library available.

Staff

The staff complement ranged up to 65 physical therapists, with a mean of 9 and a mode of 6. One physical therapist assistant was present on an average, but one center reported 10; the mode was 0. All departments had trained aides available with 5 the average, although the range was up to 61. Approximately 2 less than the total number of staff physical therapists and 1 less than the total number of aides worked with students on affiliation.

Patient Care

The range of inpatients treated per day in rehabilitation centers ran to over 1000 for the month of April 1975; 130 was the average, which was slightly greater than the number treated in the month of October 1974. On a daily average, 52 outpatients came to the center, and 2 outpatients were treated by the physical therapy staff in locales other than the center itself. Most patients (81 percent) were treated at the physical therapy service; only a few were treated at the bedside or in the outpatient clinic; even fewer were treated in screening clinics, patients' homes, or other facilities.

The director of the service treated 7 patients, compared with 10 for the CCCE, 14 for the staff physical therapists with no students,and 11 for the CI. Beginning students averaged 4 treatments each, intermediate students 6, and the advanced students ~~treated~~ 8 patients per day.

Over half of the care was long-term; 15 percent represented short-term. The patient load was distributed among pediatric, adult, and geriatric patients on a 21 percent/48 percent/ 32 percent basis. Patients were received from a full range of medical and surgical specialties, with the highest number of referrals being received from orthopedic surgeons (30 percent), physical medicine (18 percent), and internal medicine (14 percent).

Students

The number of students accommodated ranged from none for some rehabilitation centers during selected months, to a high of 43 for one center in September 1974. The range, however, averaged from 3 to 4 students (3 for April, May, June, July, August, and December; 4 in February). Over three fourths of the student commitment was for full-time students during 1974.

Equipment

As might be expected, most rehabilitation centers were well equipped. Most equipment usual for physical therapy service was present in over 50 percent of the rehabilitation centers. The equipment which was present less than 50 percent of the time was EKG units, treadmills, vitalometers, walking tanks, pools, and moist air cabinets. The equipment which was available was used primarily on a daily or weekly basis.

Pediatric Outpatient Programs (N=50)

Over a third of the pediatric outpatient centers were in urban areas and only 4 percent in rural areas. Most were open a five-day week with only 16 percent offering coverage on a seven-day basis. The majority operated on an eight-hour day schedule. All reported being part of a hospital or larger organization. Over two thirds were voluntary nonprofit institutions, and a scattered few received support from a wide range of governmental and voluntary agencies. Over a third affiliated with only one teaching program.

Space

Three fourths of the pediatric outpatient programs had secretarial space, and most had a shared office for the director of physical therapy. Over one half enjoyed a conference room and most had available a library.

Staff

There was a wide range in the complement of pediatric outpatient program staffs, with 7 physical therapists, 1 physical therapist assistant, and 5 aides the mean distribution. The figures, however, indicate there were departments with only 2 physical therapists, no physical therapist assistants, and 1 aide or less. Generally there was one staff member who did not work with students.

Patient Care

The pediatric outpatient load was greater in April of 1975 than in October of 1974. An average of 171 patients a day were treated in the pediatric outpatient centers. Most patients were treated at the physical therapy service; only a few treatments were given elsewhere.

The director of physical therapy service treated 7 patients per day, fewer than any other staff member. The CCCE treated 10 patients per day on an average, the staff physical therapists without students 12 patients, and the staff physical therapist with students 14 patients. Students contributed to patient care and were given credit for their work. Depending on their level, students averaged between 4 and 8 patients per day.

The pediatric programs were basically long-term care agencies; minimal numbers of adults and geriatric patients received care in the same facility. Patients were referred from a wide variety of specialists in medicine and surgery, with orthopedic surgery being the heaviest referral group (45 percent), followed next by pediatrics (18 percent), and then by physical medicine and rehabilitation (12 percent).

Students

The average number of students for a month ranged from 3 in December to 5 in September. The maximum number of students at one pediatric outpatient program during a single month was 43. Students were accommodated at some pediatric centers every month of the year. Part-time students accounted for 20 percent of the clinical education time in 1974, with the remaining 80 percent utilized for full-time students.

Pediatric outpatient programs on the average accepted physical therapist students from one in-state and one out-of-state educational program in 1970, and double this in 1974. Few were involved with in-state physical therapist assistant educational programs, and almost none with out-of-state assistant programs.

Equipment

Considerable equipment was available in pediatric outpatient centers, with over three fourths reporting the availability of mats, bicycles, parallel bars, wall pulleys, training stairs, tilt tables, and whirlpools. In addition, over half of the centers had low-volt therapeutic generators, shoulder wheels, heavy-resistance equipment, cervical traction apparatus, paraffin baths, cold-therapy equipment, Hubbard tanks, ultrasonic generators, infrared generators, and ultraviolet generators. Of the equipment noted, most was used daily or weekly.

Extended-Care Facilities (N=38)

Although the majority of the extended-care facilities were in urban areas, 14 percent were in rural areas, a larger percentage than that of any of the other six types of clinical education sites under consideration here. Physical therapy service coverage was evenly divided between five and six days; only a few offered seven-day care. The overwhelming majority gave only eight-hour-a-day care and no extended coverage for longer periods in the day. Eight of these physical therapy services were contracted to the extended-care facility. Approximately half were voluntary nonprofit institutions; the next largest group was federally supported, followed closely by voluntary proprietary institutions. The only type not represented in extended-care facilities was the state-government-supported agency. Almost half affiliated with only one educational program.

Space

Most (68 percent) of the extended-care facility physical therapy services had secretarial space, but only one third had private offices; fewer than half had conference rooms; a majority had the use of a library.

Staff

The size of the physical therapy staff ranged to a high in one extended-care facility of 21 physical therapists, 6 physical therapist assistants, and 7 trained aides. The mean was 6 physical therapists, 1 assistant, and 4 trained aides. Where assistants were present, most were working with students, but there were 1 staff physical therapist and 1 aide not working with students. The number of trained aides working with students was reported to be as high as 65, which conflicts with the maximum of 7 aides reported for the physical therapy service; this may indicate that the aides associated with the extended-care facility who were working with students were perhaps part of the nursing service rather than the physical therapy service.

Patient Care

Approximately two thirds of the patients were extended-care inpatients (mean 68 per day)and 18 were outpatients. An overwhelming majority of inpatients were treated at the physical therapy service (79 percent); 12 percent were treated bedside. An average of 3 per day were treated in their homes.

The director of physical therapy treated 9 patients per day, approximately half the number of patients treated by the CCCE. Staff members without students treated 2 more patients per day than did the staff member who was the CI. The beginning student in April 1975 treated 4 patients per day, half as many as did the advanced student.

The patient load was almost equally divided between intermediate and long-term care; a much smaller number were short-term patients. The patient load was also almost equally divided between adults and geriatric patients, with only a very few reported in the pediatric age group.

Patients were received from a wide variety of medical and surgical services. As was true in the other facilities,orthopedic surgery was responsible for the largest number of referrals (30 percent), followed by physical medicine (23 percent), internal medicine (14 percent), and general practice (13 percent).

Students

The number of physical therapy students in the extended-care facility averaged from 2 in September to 5 in November. Students were present in these facilities all 12 months of the year, and some facilities indicated a high of 24 students per month in April, May, November, and December. Reports showed over half of the time commitment of the extended-care facility was devoted to the full-time student. It is interesting to note that the half-time student accounted for more of the commitment in extended-care facilities than in any other clinical education site analyzed.

In 1974, extended-care facilities were accommodating one additional in-state physical therapist educational program per month than they did in 1970. Very few accommodated students from out-of-state programs in 1970, but by 1974 they had contractual relationships with one. Of those few who affiliated with physical therapist assistant educational programs, all were and had been in-state institutions; none had received students from out-of-state educational programs.

Equipment

The physical therapy services in extended-care facilities seemed quite well equipped, with most having available low-volt therapeutic equipment, low-volt evaluation devices, bicycles, parallel bars, shoulder wheels, heavy-resistance equipment, wall pulleys, training stairs, tilt tables, cervical tractions, pelvic tractions, parrafin baths, hot-pack units, cold-therapy equipment, whirlpools, and Hubbard tanks. The equipment was used on a daily basis. In over half of the agencies where it was available, low-volt evaluation equipment was seldom used.

Public Health Agencies (N=17)

Over half of the public health agencies whose physical therapy services were affiliated with physical therapy educational programs were in urban areas; 25 percent indicated that they were otherwise located, but the location was unclear. A vast majority offered five days per week coverage with an eight-hour day; a few had a seven-day coverage; a few had extended-day coverage. The physical therapy service was part of the agency, in no case on a contracted basis. Over half of the agencies were governmentally supported from the county to the federal level. Less than half (41 percent) affiliated with only one teaching program.

Space

Just over half the public health agencies had secretarial space available, but only 19 percent had a private office for the director of physical therapy service. Three fourths had both a conference room and a library available.

Staff

The physical therapy staff ranged up to 30, with a mean of 6; very few physical therapist assistants or trained aides were available. Most of the physical therapists available worked with students.

Patient Care

One agency reported over 1000 inpatients* per day but the 17 agencies averaged 101 inpatients per day and 15 per day on an outpatient basis. Two patients per day were treated out of the facility. In April 1975, 35 percent of the patients were treated at the physical therapy service; 18 percent were treated at the bedside; 7 percent were treated in an outpatient clinic; and almost none were taken care of in preventive screening clinics. A high of 100 home treatments per day was reported, but the average home-care patient load was 42 per day for April 1975. Two persons a day were treated in other physical therapy facilities.

The director of the physical therapy service treated the same number of patients, 7, as did the CCCE, but the mode and the median figures were different, with the director showing a mode of 4 per day and the CCCE a mode of 2 per day. The range of patients treated by the director was up to 20 patients per day while the range of the CCCE was from 2 to 10 patients per day. Staff who worked with students averaged 9 patients in April 1975, which was 4 fewer than was the case in October 1974. The physical therapist without students treated the same number of patients as the physical therapist with students during the month of October 1974; in April 1975 the CI treated 2 fewer patients per day than did the other staff members.

Beginning students were responsible for treating an average of 3 patients per day, and advanced students each cared for 8 patients. Somewhat more of the patients seen were long-term care rather than intermediate-care; there were very few short-term care clients. Slightly more patients were seen in the adult category than in the geriatric category, and very few (17 percent) were treated in the pediatric age group.

Patients taken care of came from a wide range of medical and surgical services, with more referrals again from orthopedic surgery (37 percent) than from any other one referring source. The second largest number of referrals was from physical medicine and rehabilitation (22 percent). Internal medicine, cardiovascular services, and neurology were next in order.

Students

Fewer students were reported on assignment with public health agencies than with any of the other five special categories described here. From an average low of 2 in the month of July to an average high of 3 in the month of

---

* "Inpatients" is a term not usually associated with a public health agency. The high incidence of patients reported in this category probably means that patients came to the facility, clinic, or health department and were treated on the premises rather than in their homes or in other locales, which would have necessitated travel by the physical therapy staff.

October, the range of assigned students ran from 6 in some months to a high of 12 in February, April, and October. Of the time devoted to students in physical therapy, 13 percent was spent with students on a half-time basis. This pattern of accepting few students may be a reflection or a result of the amount of travel time involved in much public health practice, although the fact that most patients were treated as inpatients, according to the respondents, would cause one to question that theory. An inpatient site may be a local health department or clinic, which still necessitates travel.

Those public health agencies which accepted students reported that one additional teaching program for physical therapists had been added from in-state institutions and one from out-of-state programs since 1970. There were no in-state physical therapist assistant programs affiliated with public health agencies in 1970, and few in 1974.

Equipment

One does not usually associate equipment with public health practices, but over 50 percent of those reporting had low-volt therapeutic generators, therapeutic exercise mats, bicycles, parallel bars, wall pulleys, training stairs, cervical traction, paraffin baths, hot-pack units, and whirlpools; they had them in less quantity than did other centers. Those that had equipment used it quite consistently on a daily basis, with the exception of the low-volt therapeutic generators, which were used on a monthly or "seldom" basis.

Private Practices (N=7)

All of the private practice programs reporting were in urban areas. Half offered seven-day coverage, and one fourth offered either five- or six-day coverage. Half offered an eight-hour day coverage, and one fourth offered an extended-day coverage. There were 20 percent of the private practices contracted to a hospital or other agency; 60 percent were voluntary proprietary and 40 percent were voluntary nonprofit programs. Of those reporting, 29 percent had an affiliation agreement with only one educational program.

Space

Over half had secretarial space and a private office for physical therapy staff, although some had to share office space and library facilities.

Staff

The staff in the private practices ranged to a high of 13 staff physical therapists, 3 physical therapist assistants, and 7 aides; some private practices had no physical therapist assistant. On the average, 4 physical therapists, 1 aide, plus 1 physical therapist assistant, participated in the teaching program for physical therapy students.

Patient Care

The range of patients treated daily ran over 1000 in some of the practices, and the average for April 1975 was 191 per day. The average outpatient visits reached a high of 365 per day, but averaged 74 per day. Patients treated out of the facility ranged as high as 12 per day, but 3 people per day on an average were treated out of the facility.

Over half of the patients were treated on the premises; 11 percent were treated bedside, and 28 percent in an outpatient department. There was no participation in screening programs. Not even an average of one patient per day was treated in the home.

The average treatment load for the director of physical therapy, 17 patients per day, was considerably higher than that for the CCCE, who treated 5 patients per day on an average. Staff members with no students present averaged 20 patients a day, while CIs averaged 17 patients per day.

The seven private practice programs accounted for the largest patient load per student of any of the six physical therapy services analyzed. Beginning students were reported to average 16 patients per day, and advanced students averaged 18 per day, with a range as high as 50 for both categories. Over half of the care given by private practitioners was in the intermediate-care range, with almost an equal distribution of short-term and long-term care for the remainder. About two thirds of the patients were adults; one third were described as geriatric, and only a small proportion was in the pediatric age group.

Patient referrals to private practitioners came from a full range of medical and surgical practitioners. An overwhelming majority of their patients were referred from orthopedic surgery (58 percent), followed by internal medicine (15 percent), and well below these, neurosurgery (7 percent) and physical medicine and rehabilitation (6 percent).

Students

Similar numbers of students affiliated with private practice setups as with other types of programs. The average range per month was from a low of 3 in August to a high of 5.5 per month in October, November, and December. The peak number of students accommodated by the private practice program for any month was 16 in May and June; there were some months in which the 7 reporting private practitioners had no students. Almost three fourths of the time devoted to student education was focused on the full-time student. Almost all of the educational institutions which were contracted to the reporting practitioners were in-state programs; this was true for both 1970 and 1974.

Equipment

The private practice programs were well equipped. A wide range of physical therapy equipment was available over 50 percent of the time by those reporting. Equipment which was available less than 50 percent of the time included EMG and nerve-conduction apparatus, EKG, low-volt evaluation equipment, a treadmill, a vitalometer, a walking tank, a pool, and moist air cabinets. Most of those who had equipment available used it on a daily basis.

Summary

The data which have just been reviewed came from the information which was contributed by directors of physical therapy services on the UNC-CH questionnaires. They either supplied the information from departmental records or made estimates. Data which were received from the directors of rehabilitation centers and extended-care facilities on the number of staff, the patient load, and where the patients were treated was estimated over half of the time; other directors reported using departmental records over 50 percent of the time. In most instances the information submitted on the number of treatments given by staff and students came from estimates rather than departmental records.

For the information on patient classifications as to age and length of care, the respondents more often referred to their current statistics than to their annual reports. To answer the item on the source of referrals, over half of the practitioners used their latest annual reports, while others furnished current data.

It would be interesting to know if monthly or annual reports were actually available and written in sufficient detail to report on the activities in responding to the request for data, or if estimates and figures on current work load were the only sources for this information. In the pretest of the UNC-CH questionnaire to the directors of physical therapy services, it was found that several items on sources of referral and nature of treatment had to be eliminated in the final questionnaire because of the inability of the pretest respondents to report the data. The feedback indicated that information is now computerized for most physical therapy services, and that details about types of equipment, types of patients, and types of treatments, which are not computerized, are no longer available on a regular reporting basis.

OTHER CONSIDERATIONS

Cost Factors in Clinical Education

The rapidly rising cost of health care demands that more attention be focused on the cost of clinical education in all of the health professions. Forming the basis of many current studies of program cost and cost allocation is the 1958 publication by A. J. Carroll for the Association of American Medical Colleges. (056) Carroll's study was concerned primarily with medical education costs. Later he began to produce materials on program cost estimating and cost allocation for hospitals involved in the clinical education of students of all types. (054, 055) Carroll described a pilot study for developing criteria and procedures to assist hospitals in distinguishing the costs of their patient care, education, research, and community service programs, and developed guidelines for program cost studies. He stressed that an institution must develop a formula for equating the services provided by students and that the formula varies with the type of student. A physical therapy example might be two student physical therapists equaling one physical therapist staff member.

One type of procedure is appropriate if a hospital or agency is not part of the medical school or is not controlled by it. A different type of study is necessary if the clinical center is part of the administrative structure of the medical school. In either case the procedure should first determine the gross cost of the program, and then the net cost, which should include allowance for the income produced by students.

Two of the most recent studies on the cost of medical education were sponsored by the Association of American Medical Colleges and the Institute of Medicine of the Department of Health, Education, and Welfare. *(168, 208, 209)* The AAMC reported a cost-factor study which assessed programs in six private and six public medical schools. Attention was given to the mix of students, the mix of educational programs and the relationship of instruction, research, and clinical practice; attention was also given to efforts in continuing education and differences in institutional philosophy, objectives, and resources.

Of interest to physical therapists is that the medical school report indicated that a full-time faculty member is expected to devote 35 percent time to students at all levels, 40 percent time to research, and 25 percent time to administration and professional activities associated with the educational institution's programs. "Fully involved" clinical faculty members are expected to devote 35 percent time to instruction, 25 percent time to activities related to delivery of patient care, 15 percent time to research, and 25 percent time to administration and professional duties necessary for the educational program.

The AAMC report takes into consideration the costs of the support staff of nurses, medical technologists, secretaries, and administrative personnel, as well as other costs. The study produced estimates of $16,000 to $26,000 for the annual cost of education for one medical student. Since it failed to take into consideration the income produced by students in clerkships or on clinical assignments, the study has been criticized by some cost analysts. *(164)*

The Institute of Medicine study also addressed per-student cost of medical education and the related costs of patient care, research, and instruction. In this study estimates were made of the income produced from patient care and research. The authors repeated the oft-quoted statement that teaching hospitals have a 35 percent higher per-diem cost, 9 percent more inpatient days, and 5 percent more outpatient visits than nonteaching hospitals. This study did take into account the income generated by students; it estimated that the annual cost for educating a medical student was $6,900 to $18,650.

Other cost studies were made by Hilles. He primarily studied medical school costs based on effort reports by the faculty, but included direct and indirect costs also. *(109)* Stoddart reports on a cost-allocation effort-reporting system designed as a two-step process involving an analysis of time spent in activities such as patient care, education, and other activities. He urges that a student activity report by included in any cost-allocation study concerned with educational costs and benefits, and that distinctions be made with respect to: (a) patient care contact with and without instructors; (b) contact with instructors without patients in conferences, rounds, or other locations; and (c) time devoted to self-education. *(211)*

MacGraw reports on a cost analysis of four semiautonomous units of a single medical education enterprise. The four units, developed in different geographic locations under different local conditions, were administered by one university system. The author urges that separate budgets be prepared for instruction, patient care, and research. Effort-reporting and cost-allocation formulas should be developed, he says, and he reminds the reader that costs are attributed not only to undergraduate medical education but to other cost factors as well. He states: "It is in the public arena of that community that conflicting institutional realities must be put in perspective, reconciled and finally synthesized into arrangements, policies, budgets and programs." This might be cited as another effort to involve the community in the utilization of the local resources and the costs and benefits involved. (137)

A report from Kansas City by Rode is an interesting analysis of the cost factors involved in a consortium arrangement for the education of nursing students. One vocational technical school was agreed upon by the members of the local hospital association as the training site for nurses aides to serve in a variety of city hospitals and institutions. A five-week curriculum and a small group of instructors were selected. The participating hospitals were utilized on a rotating basis to provide clinical experience. The salaries involved in the instructional program came 75 percent from state funds, with participating hospitals contributing the other 25 percent. Each hospital shared in the costs from $50 to $100 per month for supplies and equipment; 250 nurse assistants were trained at a cost of approximately $10,000 to each of the nine participating hospitals. This was a saving of $350 per trainee; the hospitals reported that they saved $100,000 in the fourteen months of the original program. (191)

The materials cited above deal with clinical education costs from the point of view of educational institutions, but some literature addresses the cost to hospitals which are not part of the administrative structure of the participating educational institution. Freymann, in his studies of hospital-based educational programs, indicates that if the educational programs at the Hartford Community Hospital were abolished, it would cost more to provide the same quality of essential hospital services. He urges that efforts be made to show that hospitals are multiproduct institutions, producing not only health care but health manpower as well, an essential public service. (091)

Busby reports on a detailed cost-allocation study at the University of Kansas Medical Center, one of the participants in the AAMC study referred to above. Using the same indices referred to previously, he calls attention to the special cost factors in a large teaching hospital, affected by its responsibility to provide health care services for the indigent, the uniqueness of its ambulatory care facilities, the types and rates of occupancy, the relationships between the type of facility and the practicing clinicians involved in patient admissions, the heavy utilization of the diagnostic services, and the specialties of nursing services required for the care provided in a large acute-care institution. (047)

The most complete reports dealing with clinical education costs in physical therapy are those by Watts and Moran. Watts, in a workshop presentation, discussed not only the cost per student in a clinical education program, but the overall cost of all students at the institution. She discussed the impact on cost of the level of the student, the length of assignment, and whether or not the student was on a full-time or part-time assignment. Cost factors were also attributed to the types of patients cared for and the type of staffing pattern in the program. Attention was called to the direct costs incurred by the presence of students, e.g., malpractice insurance, housing, meals, laundry, health services, travel, registration fees, continuing education, secretarial services, correspondence, reference materials, equipment, telephones, and postage. Watts also dealt with the indirect costs of lockers, staff rooms, housekeeping, electricity, water, laundry and supplies. Costs were attributed to the professional time spent in planning, supervising, and preparing reports, in addition to the time involved in working side by side with the student.

On the plus side of the ledger she mentioned the recruitment, selection process, and orientation benefits which come to the clinical center from a student program, as well as the reduction in staff turnover of mid-career employees involved in teaching programs. Other benefits may include savings from eliminating salaries for work performed by students rather than paid employees. Tuition vouchers for continuing education, free or decreased costs, continuing education, the stimulus and the motivation derived from association with students, and the student-generated income were all named as assets. (235)

Moran analyzes several ways in which the cost of clinical education can be studied to determine who is paying--the clinical center, the patients, the health care practitioners, or the students. She analyzes cost-allocation formulas, measurements of the time devoted to education of those involved, an effort-reporting system, identification of marginal or add-on costs, the mix of students, and the improvement of health care. Moran believes that the cost of maintaining a physical therapy service in a hospital without an education program is higher than for one which is on a contractual relationship. Costs are reported to rise as the size of a hospital increases but to level out at a size above 200 beds. The location of the hospital influences costs of salaries, maintenance, taxes, and other items. Psychological as well as economic benefits to the clinical center and the student are identified.

Moran quotes Watts's 1968 study showing that the economic benefits accruing to the clinical center are 2.6 times greater than the cost involved and that the psychological benefits to the clinical center outweigh the cost on a margin of three to one. A study of 20 hospitals which were affiliated with one university program in physical therapy produced findings which indicated that only the university sustained an economic loss and that all other groups including the affiliating center showed economic gains from the educational program.

In still the same paper, Moran reports on two pilot projects to determine cost. A small sample--six physical therapy students from one urban physical therapy educational program and nine supervising physical therapists employed in three teaching hospitals--was studied. Student input exceeded staff output. In time there was a net clinical input for each student team and a probable net benefit to the hospital. While limitations of the study were acknowledged, based on the size of the sample and the length of the study, Moran speculates that students contribute more financially than they receive in their clinical education assignments. Results do not indicate the amount of professional socialization that took place, or how much students learned from the experience. The author speculates also that it may be "entirely possible that the students have a greater opportunity to learn while contributing more time to service than they are receiving in supervision, which creates a net benefit for both the hospital and the student." *(164)*

An unpublished report involving the Los Angeles County - University of Southern California Medical Center is reported by Patton. The study was based on a questionnaire to physical therapy educational administrators regarding the cost of physical therapy education in the year 1973. It also studied the effects on cost made by 30 seniors in their first month of affiliation in June and July of 1973 in the clinical center. The range of income produced by the students was between $600 and $3120 with an average of $1179. *(178)*

An unpublished study from Indiana University sheds some light on the cost factors in 38 affiliating clinical centers, grouped by type, size of staff, source of financial support, capacity, and whether the CCCE was employed on a full-time or part-time basis. The study also contrasted the number of patients per day treated while students were present with the number treated when students were not present. Income produced by senior students or advanced students was determined to be $75 per day, and by junior or beginning students, $50 per day. The cost figures for housing, meals, fringe benefits, direct and indirect costs were very small in comparison with the results of other studies. Housing was available in 20 of the 38 institutions, but at a very low estimated weekly cost. *(117)*

Wing reviewed the literature on costs in clinical medical education and pointed up an obvious need for further research on this subject. His article reports on seven different cost studies involving the effect of intern and residency programs, the proximity of the medical school to the affiliation, the variation in costs for medical education from one service to another, and the personal efforts of the average student in subsidizing the educational program. In a regression analysis, the cost per bed per day was 20 to 25 percent higher in teaching hospitals than in nonteaching hospitals. Teaching hospitals, with longer patient stays, showed 20 percent more cost; increased costs, while frequently attributed to the presence of students, were not always accurately allocated to that cause. Teaching hospitals apparently require significantly larger capital investments than do other hospitals. If these costs were added to educational program costs, there would be a substantial shift in burden. *(241)*

In view of all of the issues, one promising avenue for further investigation is the improvement in accounting procedures and systems. Koehler is one who pleads for improved accounting systems for studying clinical education costs. In a rather complex article he stresses the need for perfected procedures for assigning the cost of activities to cost centers where many activities are simultaneously involved producing more than one product. *(127)*

Improved understanding of clinical education costs for all the health professions is a continuing goal. It becomes increasingly important as nontraditional clinical education sites with new cost patterns continue to be developed and utilized. (See Tables B.2, C.1, and C.2.)

Development and Maintenance of Relationships

As the reader has seen in Chapter 2, particularly pages 2-8 - 2-10 and 2-15 - 2-26, changing relationships and increasingly participative endeavors are essential in planning clinical education for future physical therapy practitioners. Academic and clinical faculty members, educational and clinical center administrators, practitioners, and students--all are involved in the process.

Most often a faculty member from the educational institution initiates the contact with the clinical center needed or desired as an affiliation location, although sometimes the stimulus for the contractual arrangement comes from a concerned and interested practitioner. Regardless of who initiates the contact, the primary responsibility for the development and maintenance of the relationship rests with the ACCE, who characteristically puts a high value on regular visits between people from the two institutions--a higher value than does the CCCE, according to the UNC-CH study. The responding ACCEs also attached more importance to the distance of the academic institution from the clinical center than did the CCCEs.

The university personnel indicated that student placement could be affected by family situations, as well as by cost factors and special interests of the students. Frequently an effort is made to match the student to the staff or to the pace of the clinical center. If a student functions best in an unhurried atmosphere, a thoughtful coordinator may go to considerable lengths to arrange satisfactory learning experiences in a center known for its less hectic schedule. Aware that certain role models are present among the staff of a center, ACCEs have been known to assign students wherever the most positive experience can be provided.

In general the ACCEs responded negatively to a question about providing special arrangements for students who had had previous physical therapy experience, e.g., in the military--arrangements such as allowing bypass, reducing the requirements, or redesigning the curriculum of clinical education. Three fourths of those responding said that such a student would have to fulfill the prescribed clinical education requirements. Only a few responded that alternatives could be offered, such as proficiency examinations, advanced standings, or alternate selections of sites, even when these students stayed in the clinical center the required length of time.

The educational institution, based on its academic calendar, usually sets the dates for the clinical education period, and the clinical center tries to comply. A few centers indicated that they tell the educational institution when they can accept students and then try to arrange the assignment times around that schedule. The clinical centers appeared to be increasingly assertive in indicating time periods in which they are able and willing to accommodate students. In some instances they had student quotas.

An inability to work out a mutual agreement for contractual relationships may occur for any of a variety of reasons--a center's inability to handle more students, an excessive or inadequate assignment time, an institution's inflexibility, inadequate communication between the sending institution and the clinical center personnel, poorly prepared students, or poor ethical standards in either the academic institution or the clinical center. Data available from the UNC-CH study revealed that influences for affiliating with clinical centers came almost equally from students, the CCCEs, individual CIs, and the directors of physical therapy services; little came from other administrators in the clinical centers.

There should be a yearly reevaluation of the contractual arrangements between the educational institution and the clinical center to assess the effectiveness of the contract (see the often-referred-to book on the form and function of written agreements). Moore and Parker reported the weakest parts of the contracts reviewed over a three-year period were in the area of administrative mechanisms, review of difficult situations, and reworking of contractual relationships. *(162, 160)*

Some of the difficulties in maintaining good relationships are reportedly due to a breakdown in communications, a lack of appreciation for the other's problems, or an inability to settle issues which are insoluble at a given time. The most frequently cited problems by both clinicians and educators in the UNC-CH study were poor preparation of students and inadequate supervision in the clinical environment. Both problems need attention and both situations are subject to improvement, with effort.

Communications basically are maintained by telephone and mail contacts on a rather regular basis, but personal visits do occur. Over half of the ACCEs reported visiting the clinical centers more than once a year, but 22 percent visited one time a year or less often. Visits from staff in the clinical center to the academic institution occurred one time a year or less often in 61 percent of the cases reported in the UNC-CH study. The other ways an educational institution can maintain and foster relationships with the clinical center--e.g., consultations, workshops, inservice education programs, general consulting services, and loans of equipment--are dealt with in some detail in Chapter 4.

Across the nation there has been some discussion that one area of misunderstanding between clinical centers and educational institutions is the academic institution's faculty unwillingness to accept evaluations by the clinical center's staff on the performance of the student. There is little in the information which the Project obtained from any source to indicate that this is a problem, or to indicate that "poor attitudes" of the students in some institutions affected relationships. It had also been anticipated that unethical conduct or poor standards would be listed more frequently by both educators and clinicians as reasons for disagreements and difficulties, but these were not documented in the UNC-CH study.

Before concluding this chapter on the clinical education site, it should be noted that the Project on Clinical Education identified two additional aspects of the selection and development of clinical education sites that need more exploration: (a) the situation in which a clinical center has a physical therapy service but no educational program, and (b) the one in which a clinical center with no current physical therapy services possesses the potential to provide services needed for clients and consequently for educational programs.

The real strength of all future efforts lies in the development and maintenance of good relationships between all the people involved: consumers, students, practitioners, teachers, and administrators. Chapter 4 focuses on the clinical faculty, the allies in education for physical therapy.

Table 3.1

AREAS OF CLINICAL EDUCATION OBJECTIVES FROM EDUCATIONAL PROGRAMS

Subject matter areas of objectives	Physical therapy programs N=50				Developing programs N=4	Physical therapist ass't programs N=15			
	N=26			N=24	N=4	N=7			N=8
	A*	B*	C*	D*	D*	A*	B*	C*	D*
Patient care	25	19	25	24	4	7	7	6	8
Interpersonal relations & communication	21	16	22	23	4	6	7	7	8
Administration	19	9	22	16	3	2	3	3	5
Professional attitude & ethics	16	12	19	20	4	4	3	6	6
Integration of didactic & clinical education	14	7	7	14	1	3	3	5	6
Personal qualities	10	9	14	14	-	2	3	4	4
Observation skills	7	2	1	3	2	-	1	1	3
Scope of patient problems	6	3	2	1	-	1	-	-	1
Self-assessment	6	3	3	-	-	-	-	-	-
Teaching skills	4	4	13	7	3	2	4	4	1
Research skills	2	-	1	3	1	-	-	-	-
Supervisory skills	-	1	2	7	-	-	-	-	-
Problem-solving skills	-	1	-	2	-	-	1	1	-
Curriculum evaluation	-	-	-	1	-	-	-	-	1
Creative thinking	-	-	-	1	-	-	-	-	-
Knowledge of role of physical therapist or physical therapist assistant	-	-	-	-	2	5	4	3	4
Use of proper body mechanics	-	-	-	-	1	-	-	-	3
Awareness of non-physical therapy areas	-	-	-	-	-	-	-	-	1

Source: "Soft data," 1974; objectives received from 69 educational programs

*A: Objectives for beginning students

*B: Objectives for intermediate students

*C: Objectives for advanced students

*D: Objectives of overall program

Table 3.2
RANKING OF OBJECTIVES LISTED IN TABLE 3.1

Subject matter areas of objectives	Physical therapy programs N=50				Developing programs N=4	Physical therapist ass't programs N=15			
	N=26			N=24	N=4	N=7			N=8
	A*	B*	C*	D*	D*	A*	B*	C*	D*
Patient care	1	1	1	1	1	1	1	2	1
Interpersonal relations and communication	2	2	2	2	1	2	1	1	1
Administration	3	4	2	4	2	6	3	5	3
Professional attitude and ethics	4	3	3	3	1	4	3	2	2
Integration of didactic and clinical education	5	5	6	5	4	5	3	3	2
Personal qualities	6	4	4	5	-	6	3	4	4
Observational skills	7	8	9	7	3	-	4	6	5
Scope of patient problems	8	7	8	9	-	7	-	-	6
Self-assessment	8	7	7	-	-	-	-	-	-
Teaching skills	9	6	5	6	2	6	2	4	6
Research skills	10	-	9	7	4	-	-	-	-
Supervisory skills	-	9	8	6	-	-	-	-	-
Problem-solving skills	-	9	-	8	-	-	4	6	-
Curriculum evaluation	-	-	-	9	-	-	-	-	6
Thinking creatively	-	-	-	9	-	-	-	-	-
Knowledge of role of physical therapist or physical therapist assistant	-	-	-	-	3	3	2	5	4
Use of proper body mechanics	-	-	-	-	4	-	-	-	5
Awareness of non-physical therapy areas	-	-	-	-	-	-	-	-	6

Source: "Soft data," 1974; objectives received from 69 educational programs
*A: Objectives for beginning students
*B: Objectives for intermediate students
*C: Objectives for advanced students
*D: Objectives for overall program

Table 3.3
AREAS OF CLINICAL EDUCATION OBJECTIVES OF CLINICAL CENTERS

Subject matter area of objectives	Physical therapy programs N=159				Physical therapist assistant programs N=6			
	N=27			N=132	N=2			N=4
	A*	B*	C*	D*	A*	B*	C*	D*
Patient care**	18	5	27	128	2	2	2	3
Interpersonal relations and communication	16	4	25	116	2	2	2	3
Administration	10	2	19	99	2	2	2	2
Professional attitude and ethics	13	1	17	72	1	1	1	3
Integration of didactic and clinical education	10	2	11	80	1	1	1	2
Personal qualities	12	3	18	79	0	0	1	4
Observational skills	6	0	5	46	2	2	2	1
Scope of patient problems	4	0	4	47	0	0	0	3
Self-assessment	4	1	3	12	0	0	0	0
Teaching skills	4	2	20	51	0	1	1	0
Research skills	0	0	3	25	1	1	1	0
Supervisory skills	4	2	13	51	0	0	0	0
Problem-solving skills	0	0	0	13	0	0	0	1
Curriculum evaluation	3	0	4	6	0	0	0	1
Creative thinking	0	0	1	10	0	0	0	1
Knowledge of role of therapist and/or assistant	9	0	9	56	1	1	1	2
Use of proper body mechanics	2	1	5	13	0	0	0	0
Awareness of non-physical therapy areas	6	1	19	80	1	1	1	2
**Sub-objectives dealing with patient care								
Awareness of other patient resources	0	0	5	19	0	0	0	0
Evaluating	15	4	25	101	0	0	0	1
Planning programs	9	4	21	98	0	0	0	0
Executing plans	16	4	27	123	2	2	2	3
Reevaluating	3	2	14	64	0	0	0	0
Discharging	1	1	12	38	0	0	0	0

Source: "Soft data," 1974

*A: Objectives for beginning students

*B: Objectives for intermediate students

*C: Objectives for advanced students

*D: Objectives of overall program

Table 3.4
RANKING OF OBJECTIVES LISTED IN TABLE 3.3

Subject matter area of objectives	Physical therapy programs N=159				Physical therapist assistant programs N=6			
	N=27			N=132	N=2			N=4
	A*	B*	C*	D*	A*	B*	C*	D*
Patient care**	1	1	1	1	1	1	1	2
Interpersonal relations and communication	2	2	2	2	1	1	1	2
Administration	5	4	4	3	1	1	1	3
Professional attitude and ethics	3	5	6	6	2	2	2	2
Integration of didactic and clinical education	5	4	8	4	2	2	2	3
Personal qualities	4	3	5	5	3	3	2	1
Observational skills	7	6	10	10	1	1	1	4
Scope of patient problems	8	6	11	9	3	3	3	2
Self-assessment	8	5	12	13	3	3	3	5
Teaching skills	8	4	3	8	3	2	2	5
Research skills	11	6	12	11	2	2	2	5
Supervisory skills	8	4	7	8	3	3	3	5
Problem-solving skills	11	6	14	12	3	3	3	4
Curriculum Evaluation	9	6	11	15	3	3	3	4
Creative thinking	11	6	13	14	3	3	3	4
Knowledge of role of therapist and/or assistant	6	6	9	7	2	2	2	3
Use of proper body mechanics	10	5	10	12	3	3	3	5
Awareness of non-physical therapy areas	7	5	4	4	2	2	2	3
****Sub-objectives dealing with patient care**								
Awareness of other patient resources	6	4	6	6	2	2	2	3
Evaluating	2	1	2	2	2	2	2	2
Planning programs	3	1	3	3	2	2	2	3
Executing plans	1	1	1	1	1	1	1	1
Reevaluating	4	2	4	4	2	2	2	3
Discharging	5	3	5	5	2	2	2	3

Source: "Soft data," 1974

*A: Objectives for beginning students

*B: Objectives for intermediate students

*C: Objectives for advanced students

*D: Objectives of overall program

Table 3.5
AFFILIATION AGREEMENTS BETWEEN EDUCATIONAL PROGRAMS AND CLINICAL CENTERS

Average number of clinical centers affiliated with an educational program	34
Range of clinical centers affiliated with an educational program	4-165
Average number of educational programs affiliated with a clinical center	1.8
Range of educational programs affiliated with a clinical center	1-22
Total number of clinical centers identified by responding educational programs	1671
Clinical centers affiliated with only 1 educational program	1037 (62%)
Clinical centers affiliated with 2 educational programs	319 (19%)
Clinical centers affiliated with 3-5 educational programs	273 (16%)
Clinical centers affiliated with 6-9 educational programs	35 (2%)
Clinical centers affiliated with 10 or more educational programs	7 (0.4%)

Source: "Soft data," 1974; materials received from 90 educational programs.

Table 3.6
EDUCATIONAL PROGRAMS AFFILIATED WITH SELECTED TYPES OF CLINICAL CENTERS

Educational program			Number of affiliated educational programs					
			Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
In-state, physical therapy:								
	1970	Mean	1	1	1	1	1	1
		Mode	1	1	1	1	1	0
		Median	1	1	1	1	1	1
		Range	0-6	0-6	0-8	0-4	0-4	0-5
	1974	Mean	1	2	2	2	3	2
		Mode	1	1	1	1	1	1
		Median	1	1	1	1	1	1
		Range	0-8	0-8	0-9	0-28	0-19	0-5
Out-of-state, physical therapy:								
	1970	Mean	1	1	1	0	1	1
		Mode	0	0	0	0	0	0
		Median	0	1	0	0	0	1
		Range	0-8	0-8	0-8	0-2	0-4	0-1
	1974	Mean	2	2	2	1	1	0
		Mode	0	0	0	1	0	0
		Median	1	1	1	1	1	0
		Range	0-18	0-18	0-18	0-4	0-4	0-1
In-state, physical therapist assistant:								
	1970	Mean	0	0	0	0		0
		Mode	0	0	0	0	0	0
		Median	0	0	0	0	0	0
		Range	0-1	0-1	0-2	0-1	0	0-1
	1974	Mean	0	0	0	1	0	1
		Mode	0	0	0	0	0	1
		Median	0	0	0	0	0	1
		Range	0-3	0-3	0-3	0-2	0-1	0-1
Out-of-state, physical therapist assistant:								
	1970	Mean	0	0	0	0	0	0
		Mode	0	0	0	0	0	0
		Median	0	0	0	0	0	0
		Range	0	0	0	0	0	0
	1974	Mean	0	0	0	0	0	0
		Mode	0	0	0	0	0	0
		Median	0	0	0	0	0	0
		Range	0-1	0	0-1	0	0	0

Source: UNC-CH study, 1975

* OPD = outpatient department

Table 3.7
ACCE WILLLINGNESS TO MAKE A VARIETY OF CLINICAL ASSIGNMENTS

Type of assignment	Frequency of response (%)*		
	Presently using %	Willing to use %	Not willing to use %
Assignment to faculty			
Dentist or orthodontist	0	39	62
Coordinator of rehabilitation services	24	61	16
Coordinator of PT services	39	50	12
Methods analyst in PT	0	69	31
Program analyst in PT	0	71	29
Budget analyst in PT	4	61	35
Administration specialist	8	58	35
Education specialist	8	61	31
Specialist in some area of PT practice	63	31	6
Member of government advisory committee on delivery of health care or health care needs	8	56	36
Prosthetist (especially IPOF work)	18	65	18
Industrial health specialist	4	70	26
Director of PT curriculum	10	42	48
Dean, school of allied health	2	39	59
Consultant to extended-care facility	24	61	16
Advisor to transportation development (design, accessibility)	0	48	52
Editor of PT journal	0	43	57
PT faculty member (academic)	18	51	31
Research project director (clinical or basic)	12	67	21
Headquarters staff of APTA	0	53	47
Assignment to programs			
Industrial physical fitness program	0	81	19
Well-baby clinic	12	65	23
Juvenile court center	0	23	77
Legal program related to health care	2	65	33
Geriatric program (with emphasis on administration rather than treatment)	14	50	37
Patient education center	8	73	19
Audio-visual office with medical illustrator	12	42	46
Assignment to facilities			
Sports medicine/athletic training	40	56	4
Geriatric center	79	21	0
Sheltered workshop/Goodwill Industries	16	55	29

table continues

Source: UNC-CH study, 1975

* Frequency indicated is % of ACCEs (N=53) responding to each item

Table 3.7 continued
ACCE WILLINGNESS TO MAKE A VARIETY OF CLINICAL ASSIGNMENTS

Type of assignment	Frequency of response (%)*		
	Presently using %	Willing to use %	Not willing to use %
Assignment to facilities (continued)			
Large acute hospital	100	0	0
Rehabilitation center	98	2	0
Pediatric hospital	94	6	0
School for the handicapped (orthopedic, deaf, blind)	75	25	0
Prepaid health care setting	17	75	8
School screening program	20	69	12
Community health center	37	58	6
Mental health center	12	73	15
University student health center	16	61	24
Nursing home or extended-care facility	81	19	0
Health organization or agency	47	39	14
Health spa	0	24	76
Camp for the handicapped	12	78	10
Foreign or overseas centers	6	38	56
Headquarters of health agency (such as Arthritis Foundation)	4	51	45
Drug center	2	37	61
Home health agency	58	40	2
Boys and girls aid societies	0	35	65
Rural health centers	24	65	12
Visiting nurse association	46	52	2
Veterinary services	0	22	78
Specialty facilities			
Burn center	81	19	0
Oncology	43	51	6
Hand center	35	61	4
Leprosy	4	80	16
Cerebral palsy	89	9	2
Rheumatology	55	43	2

Source: UNC-CH study, 1975
* Frequency indicated is % of ACCEs (N=53) responding to each item

Table 3.8
CLINICAL EDUCATION SITES REQUIRED OF ALL STUDENTS

Types of Clinical Education Sites	Frequency of response (%)* (N=53)	
	Required %	Not required %
General hospital	94	6
Rehabilitation center	70	30
Pediatric center	38	62
Burn unit	11	89
Public health agency	13	87
Intensive care unit	13	87
Geriatric program	21	79
Extended-care facility	17	83
No specific facility required	--	6

Source: UNC-CH study, 1975

*Frequency indicated is % of ACCEs replying to each item.

Table 3.9
INTEREST OF ACADEMIC COORDINATOR OF CLINICAL EDUCATION IN AFFILIATING WITH VARIOUS TYPES OF PROGRAMS

Program areas	Frequency of ACCE's response (%)* (N=53)		
	Interested %	Not interested %	Already affiliated with such a center %
Pediatric patients	6	0	94
Adult patients	2	0	98
Geriatric patients	8	0	93
Long-term care patients	6	0	94
Intermediate care patients	8	4	89
Short-term care patients	2	2	96
Acute patients	2	0	98
Inpatient population	2	0	98
Home-bound patients	34	4	62
Rural patient population	55	14	31
Inner-city population	21	8	72

Source: UNC-CH study, 1975

*Frequency indicated is % of ACCEs replying to each item

Table 3.10
REASONS FOR DIFFICULTY IN FINDING GOOD CLINICAL AFFILIATION SITES

Problem	Frequency of Response (%)*	
	Cited as a reason %	Not cited as a reason %
Site too crowded with other students	85	15
Site not receptive to students	38	63
Quality of the program is poor	78	23
Quality of the staff is poor	58	43
"Atmosphere of learning" is missing	68	33
Site does not have program in areas of curriculum	13	88
Site too costly to educational institution	10	90
Site too costly to student	28	73
Site too far away for an adequate liaison	50	50

Source: UNC-CH study, 1975

*These are percentages of the number of respondents (ACCEs) who actually experienced difficulty in finding good clinical affiliation sites(N=40); they are not percentages of the total number of respondents, 25% of whom reported no difficulty.

Table 3.11
FACTORS IN SELECTING A CLINICAL EDUCATION SITE

Factors in site selection	Frequency of response of ACCEs (%)*			
	Crucial %	Important %	Not very important %	Unimportant %
Physical size of department	2	34	51	13
Number of staff	8	60	26	6
Number of patients	19	76	4	2
Type of patients	32	60	6	2
Equipment available	4	46	46	4
Quality of physical therapy service	85	15	0	0
Quality of the staff	85	15	0	0
Interest of staff in students	87	13	0	0
Enthusiasm of staff for its work	62	39	0	0
Professional activities of the staff	15	76	9	0
Active continuing education program for staff	30	57	13	0
Willingness of staff to evaluate students	83	15	2	0
Availability of staff for workshops and conferences at academic program	17	68	13	2
Patterns of patient referral	2	58	35	6
Presence of departmental objectives	13	77	9	0
Presence of internal-audit mechanism	4	36	47	13
Support for role of physical therapist assistant	19	28	36	17
Presence of planned learning experiences for students	55	43	2	0
Support services available for the student (libraries, health services, etc.)	9	68	21	2
Number of students affiliating	26	55	19	0
Administration supports clinical education	51	45	4	0
Administration provides financial support for clinical education	6	35	44	15
Departmental communication with educational program	64	37	0	0
Good interpersonal relationships within department	32	68	0	0
Sound management of department	17	81	2	0
Monetary cost to school	19	60	9	11
Distance from educational program	13	64	19	4
The clinical education specialty needs of academic curriculum	27	65	6	2

Source: UNC-CH study, 1975

* Frequency indicated is % of ACCEs responding to each item (N=53).

Table 3.12
CLINICAL CENTER SELF-IDENTIFICATION BY TYPE

Center type N=250	Response indicating type of center* N	 %
Teaching hospitals	138	55
Community hospitals	106	43
Rehabilitation centers	77	31
Pediatric outpatient facilities	50	20
Others considered specialized centers	49	20
Pediatric inpatient facilities	41	17
Extended-care facilities or skilled nursing facilities	38	15
University medical centers	36	15
Chronic disease hospitals	23	9
Geriatric acute care centers	18	7
Public health agencies	17	7
Geriatric chronic centers	17	7
Mental health facilities	17	7
Mental retardation facilities	12	5
Private practices	7	3
Pediatric day-care centers	5	2
Geriatric day-care centers	4	2
Other kinds of outreach clinics	3	1

Source: UNC-CH study, 1975

*Directors of physical therapy services classified their agencies by more than one title; therefore a number of the centers are counted more than once in this table.

Table 3.13
SERVICES REFERRING PATIENTS TO PHYSICAL THERAPY

Service	Mean referral (coded)*	PT services receiving no referrals (%)** %
Orthopedics	5.34	4
Internal medicine	2.53	26
Rheumatology	1.18	48
Cardiovascular surgery	1.01	53
Other	.69	74
Neurology	1.79	30
Physical medicine	1.86	53
General practice	1.84	42
Neurosurgery	1.53	36
Pediatrics	1.42	43
General surgery	1.38	39
Other	.53	78
Plastic surgery	.49	68
Thoracic surgery	.45	71
Psychiatry	.35	74

Source: UNC-CH study, 1975

* 6 point scale indicating % of patients referred to physical therapy from a particular service:
1= 4% or less
2= 5 - 9%
3=10 - 19%
4=20 - 29%
5=30 - 39%
6=40 - 49%

**% indicated is % of respondents indicating no referrals from each service; total number of clinical centers responding was 250

Table 3.14
REFERRAL SOURCE OF PATIENT LOAD IN SELECTED TYPES OF CLINICAL CENTERS

Patient referral source	Percentage of patients					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Neurosurgery						
Mean	7	7	6	4	3	7
Mode	0	0	0	0	0	1
Median	5	3	0	0	0	3
Internal medicine						
Mean	15	14	7	14	11	15
Mode	0	0	0	20	0	0
Median	14	13	0	15	5	6
Cardiovascular						
Mean	5	6	1	7	9	4
Mode	0	0	0	0	0	0
Median	1	0	0	2	0	1
Rheumatology						
Mean	6	4	3	5	4	4
Mode	0	0	0	0	0	0
Median	2	2	0	3	1	1
Other internal						
Mean	4	2	2	5	2	0
Mode	0	0	0	0	0	0
Median	0	0	0	0	1	0
Physical medicine						
Mean	10	18	12	23	22	6
Mode	0	0	0	0	0	0
Median	2	9	1	5	11	1
General practice						
Mean	6	5	3	12	7	4
Mode	0	0	0	0	0	0
Median	0	0	0	6	1	1
General surgery						
Mean	7	4	3	5	3	2
Mode	0	0	0	0	0	1
Median	5	1	0	5	1	1
Basis for response	Percentage of responding centers					
Last annual report	36	38	38	27	25	57
Current patient load	64	62	62	73	75	43
Total	100	100	100	100	100	100

table continues

Source: UNC-CH study, 1975
*OPD = outpatient department

Table 3.14 continued
REFERRAL SOURCE OF PATIENT LOAD IN SELECTED TYPES OF CLINICAL CENTERS

Patient referral source	Percentage of patients					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Plastic surgery						
Mean	2	1	2	1	0	2
Mode	0	0	0	0	0	0
Median	0	0	0	0	0	2
Thoracic surgery						
Mean	2	1	1	1	1	1
Mode	0	0	0	0	0	0
Median	0	0	0	0	0	0
Orthopedics						
Mean	35	30	44	30	37	58
Mode	20	20	20	20	20	17
Median	30	26	36	28	30	61
Neurology						
Mean	9	8	8	4	9	4
Mode	0	0	0	0	0	1
Median	5	4	5	0	5	2
Pediatrics						
Mean	5	6	18	2	4	1
Mode	0	0	0	0	0	0
Median	1	1	5	0	0	1
Psychiatry						
Mean	1	1	0	1	0	1
Mode	0	0	0	0	0	0
Median	0	0	0	0	0	1
Other						
Mean	3	4	1	2	3	0
Mode	0	0	0	0	0	0
Median	0	0	0	0	0	0
Basis for response	Percentage of responding centers					
Last annual report	36	38	38	27	25	57
Current patient load	64	62	62	73	75	43
Total	100	100	100	100	100	100

Source: UNC-CH study, 1975
*OPD = outpatient department

Chapter 4

THE CLINICAL FACULTY

Without clinical faculty, there could be no clinical education. According to the University of North Carolina at Chapel Hill (UNC-CH) study, the most highly rated characteristics of a site for clinical education are an atmosphere receptive to students and a talented clinical staff. Without the clinical faculty, these could not be maximized and developed into programs of clinical education for students of physical therapy (Table D.32).

The conclusions and recommendations of the Project on Clinical Education with respect to the clinical faculty are set forth in Chapter 2 (pages 2-15 - 2-26). Here in Chapter 4 further detail from various sources is set forth for the reader. Content is organized with the roles, responsibilities, and relationships of the clinical faculty appearing first, followed by discussion about planning a faculty development program. The chapter ends with observations on rewards and incentives.

CHARACTERISTICS AND FUNCTIONS

The Project on Clinical Education has defined clinical faculty as the academic coordinator of clinical education (ACCE), the center coordinator of clinical education (CCCE), and the clinical instructor (CI). The CCCE and the CI are usually employees of or have primary responsibility to the agency where the clinical education is taking place; the ACCE has primary responsibility to the educational program. The ACCE is defined by Scully as the person primarily concerned with (a) the relationship of clinical education to the total curriculum,(b) the planning and coordinating of clinical education with the academic and clinical faculty, and (c) administering the clinical education program. (198) This person is responsible for disseminating information to all of the clinical centers used in the clinical education process and for facilitating the development of each of the persons involved in the process so that he/she may function at optimal level.

The CCCE is the person in the clinical center who coordinates and arranges the clinical education experiences in the clinical center for the physical therapy students, communicates with the educational program(s), and has responsibility for the student at the clinical site. Responsibilities of the CCCE include coordination with the CI and the selection of other than patient care and physical therapy experiences in which the student might participate. The CCCE may have responsibilities in the clinical center in addition to clinical education, depending largely on the size of the agency.

The CI is responsible for the direct supervision and instruction of the student at the clinical education site. He or she may or may not be a physical therapist or physical therapist assistant; a physical therapist must be present in a clinical center when a student physical therapist assistant is assigned. The CI, as the person the student sees functioning as a practitioner rather than a lecturer, has the most direct effect upon the student.

These three people, the ACCE, the CCCE, and the CI, function in close alliance. Their planning and communication are indispensable in the entire process of clinical education. The joint effort between the clinical education center and the educational program that is necessary for good clinical education experiences cannot be emphasized too strongly.

Academic Coordinator of Clinical Education (ACCE)

The ACCE has responsibilities in the areas of: (a) organization, direction, supervision, and coordination of the clinical education part of the total curriculum; (b) development of the clinical centers and the clinical faculty; (c) development of the students through counseling and guidance; (d) participation as an academic faculty member in the basic curriculum (this includes both teaching responsibilities and administrative responsibilities); and (e) patient care services. Each of these five topics is discussed separately below. (See Table A. 4 .)

Activities in the area of organization, direction, supervision, and coordination of clinical education are many and varied. The ACCE serves as a liaison between the educational program and the clinical faculty for planning student experiences, disseminating information to both students and clinical center personnel, personally visiting clinical centers, setting dates for clinical education, assigning students to clinical centers, handling student failure, setting objectives for clinical education, and having input into the choice of clinical faculty. Other ACCE responsibilities include: establishing procedures, guidelines, and manuals for clinical education; evaluating clinical centers for the purposes of selection, development, and maintenance; coordinating the clinical education program with other health disciplines; increasing the scope of the clinical education program; and collaborating with other groups in the choice of clinical education sites.

The ACCE has the responsibility for clinical center and clinical faculty development. Identifying and/or developing clinical centers to meet the needs of the curriculum, often done in conjunction with a curriculum or clinical education committee, involves initial assessment of the curriculum needs, followed by identification and selection of existing centers to meet those needs or, if clinical centers do not exist, stimulating the development of needed clinical sites. Centers currently being used for clinical education also need continued assistance to maintain and improve their quality. The ACCE can serve to influence both the physical therapy staff and the administration of the clinical center for this purpose. The support of the educational program can also strengthen the position of the physical therapy service in some new endeavor, such as expanding a program or requesting additional personnel.

The development of centers implies the development of clinical faculty.

Both personal contact and formalized course work can be utilized for faculty development; indeed some educational programs require course work of persons wishing to become CIs, but this is not common according to UNC-CH study results. For the purpose of clinical faculty development--which can indeed enrich the entire clinical education center--approximately half of the ACCEs coordinate short courses or workshops on supervisory skills, educational skills, and clinical skills.

Counseling students on a personal basis regarding aspects of the curriculum related to clinical education is an essential part of the ACCE's function. The ACCE is responsible for providing information about centers to the students, so that they have pertinent data in requesting sites for their clinical education experience. Unsatisfactory student performance often necessitates counseling students directly and guiding and assisting the clinical center personnel in the handling of the situation. The ACCE often becomes involved in counseling students regarding job placement or personal problems that arise during clinical education.

The ACCE may have responsibilities in such other areas of the total curriculum as planning and teaching didactic courses, developing audiovisual and other teaching materials, research, planning and teaching in continuing education programs, and participating in inservice education programs. Other functions of the ACCE as an academic faculty member include administrative activities, serving on committees, and the like.

The ACCE generally has minimal time commitment to direct patient care, and the majority of ACCEs have none. The greatest time commitment reported by an ACCE in the UNC-CH study was 20 percent. No information was available regarding the time commitment of the ACCE to other types of patient services.

As for the characteristics of the ACCE, some information is available from the 1975 UNC-CH study. The typical ACCE at that time was almost 39 years old. Those associated with physical therapist assistant programs and those associated with baccalaureate programs for physical therapist students were about the same age. More than three fourths of the ACCEs are women.

The education of the ACCE was examined in the UNC-CH study, both formal education and continuing education. The majority of responding ACCEs held masters degrees; very few held doctorates or certificates in physical therapy not associated with a baccalaureate degree in physical therapy. ACCEs in programs offering the baccalaureate degree and those in associate degree (physical therapist assistant) programs had similar educational background. Close to half the respondents were pursuing formal advanced professional education. Of those 15 people, 12 were working toward masters degrees and three toward doctorates.

The only information available on the current educational requirements for the position of ACCE comes from the "soft-data" materials submitted to the Project. That source simply states that the ACCE should have graduated from an approved physical therapy education program. There are a few statements that the ACCE should have a masters degree, but whether for initial preparation or advanced study in physical therapy is not noted. Logic dictates that the ACCE should have some background in educational theory.

The only information regarding the formalized study of education that the Project had at hand related to the majors of the ACCEs pursuing advanced degrees. Of the 15 persons involved, 9 were majoring in educationally related areas (7 in education and administration, 1 in curriculum and instruction, and 1 in science and education).

As for continuing education, 98 percent of the ACCEs reported they had attended at least one short course in the last three years (see Table 4.1). The most popular length for these courses was 1 week or less. It is obvious from the table that the ACCEs were quite actively involved in continuing education programs.

The UNC-CH study also surveyed the experience of ACCEs in the areas of patient care, teaching, supervision, and administration (Table 4.2). Virtually all the ACCEs had a substantial background in patient care (an average of over 8.5 years of experience). Almost as many had teaching background, either academic instruction, clinical instruction, or both. The majority of the ACCEs associated with physical therapist assistant programs had experience in the academic and/or clinical instruction of physical therapist assistant students, but few of those involved in physical therapist programs had experience with physical therapist assistant students. More than half the responding ACCEs had almost 6 years of administrative experience, on the average, and almost three fourths reported 4.5 years of supervisory experience.

There is some literature on personal qualifications and characteristics considered desirable in an ACCE and the importance of these characteristics. These are discussed later in this chapter under the heading, "Gleanings From the Literature," and in Chapter 2 (pages 2-15 - 2-19); see also Chapter 3.

Center Coordinator of Clinical Education (CCCE)

The key person for coordination of the clinical education program within the clinical center is the CCCE. Since the functions of the CCCE in planning and implementing a clinical education program may not require a full-time commitment, this person may serve in other capacities within the clinical education program and for the physical therapy service. He/she may be the director of the physical therapy service and/or a CI. In any event, time must be set aside specifically for the duties as CCCE. (See Table B.3 .)

In this discussion of the CCCE only those functions that are unique to coordinating and implementing the clinical education program are discussed in depth. The other functions that the CCCE may serve, educational or administrative, are mentioned only briefly.

The functions of the CCCE can be divided into the areas of patient care, service administration, and clinical education.

The CCCE has a distinct responsibility for patient care, an average time commitment of 45 percent, as shown in Table 4.3. In rating their own competencies, the CCCEs responding in the UNC-CH study consistently ranked patient-care-related activities quite highly (Table 4.4). Job descriptions of the CCCE received by the Project from many clinical centers, also include a strong commitment to patient care. Service administration demands an average of 30 percent of the CCCE's time (see Table 4.3), and serving on committees demands another 11 percent (see Table 4.3). Another indication of the heavy administrative responsibility is that 71 percent of the directors of physical therapy services reported that they also functioned as the CCCE.

As for CCCE clinical education program responsibilities, these can be characterized as administrative and educational. The administrative aspects of clinical education include scheduling students to CIs and other persons; liaison between the educational institution and the center; arranging the students' noneducational needs such as room, board, and medical care; and assessing the effectiveness of the clinical education program. The CCCE's educational responsibilities involve identifying, planning, and carrying out the learning experiences; evaluating students; counseling students and CIs; and providing inservice or continuing education for the CIs.

The UNC-CH study revealed that the CCCE spends an average of 21 percent time in the administration of the clinical education program (though the median was just under 10 percent; see Table 4.3). Engendering the interest of the staff in clinical education, scheduling students within the center, having input into the educational institution's curriculums, and accepting or terminating student affiliations, are the most common activities of the CCCE in administering the clinical education program. Note that the Project on Clinical Education concluded that evaluation should be a high-priority CCCE function.

The Project's "soft data" provided an overview of the responsibilities of the CCCE for the clinical education program. Items specified in job descriptions of the CCCE included (in descending order of frequency) planning, conducting, coordinating, or directing student education programs; providing liaison with the educational institution; making arrangements (such as room and board) for students; keeping abreast of the curriculum; drafting and negotiating contractual agreements; and keeping abreast of the policies of the educational programs and the students' schedules.

The more "educational" aspect of clinical education for which the CCCE is responsible includes planning and implementing learning experiences, evaluating the experiences, counseling the students, and related activities. Based on UNC-CH study results, the CCCE has an average 24 percent time commitment to clinical education and a 5 percent time commitment to classroom teaching (see Table 4.3). Two other activities related to education are handling student failure and development of objectives for clinical education. Almost all CCCEs responding in the UNC-CH study reported handling student failure by offering feedback to the student, informing the student of status at a midterm or final evaluation, or talking with the student after talking with the CI. About one third of the CCCEs either let the ACCE handle the situation or sent the final evaluation back to the educational institution. Almost none reported asking the ACCE to remove the student.

Almost three fourths of the CCCEs reported that objectives for clinical education had been developed in their clinical center. By inference, this would seem to have been an activity of the CCCE, either alone or with a committee.

Most objectives were developed on the basis of opinions and interests of the clinical center staff, with assistance from the ACCE. Some clinical centers (about a fourth) reported developing objectives in conjunction with the student.

As noted before, the CCCE may also function as a CI. The duties and responsibilities of the CI are dealt with later in this chapter. Characteristics and background of the typical CCCE, current at the time of the UNC-CH 1975 study, are discussed below.

From the UNC-CH study we have two sources of data describing the CCCE: the survey of directors of physical therapy services and the survey of CCCEs. Less than one fourth of the CCCEs were men. Their ages ranged from 24 to 63 years but the average was between 32 and 36.

As for educational background of the CCCEs there are differences in the reports from the two respondent groups (see Table D.27). Although the percentages are different, the conclusions remain the same: an overwhelming majority of the CCCEs held baccalaureate degrees as their highest degree. The next most frequent "highest degree" was a masters degree through advanced study. No CCCEs were physical therapist assistants.

The educational requirements for the position of CCCE were available from the job descriptions of CCCEs and, minimally, from the UNC-CH data.

Out of the 136 job descriptions that were reviewed by the Project, 92 required the CCCE to be a graduate of an approved physical therapy education program; 10 or fewer specified requirements of a masters degree, postbaccalaureate education, or the intent to pursue such education in physical therapy or with a major in education. A few job descriptions of the CCCE did not require but recommended that the CCCE pursue (or intend to pursue) postbaccalaureate education or work for a masters degree. It should be noted that not all job descriptions included requirements or recommendations for the qualifications of the CCCE.

From this, it is obvious that the requirements for the CCCE are diverse and inconsistent. Although seldom required, advanced academic work has been recommended for the CCCE. Response in the UNC-CH study indicated that 8 percent of the clinical centers required the CCCE to have an advanced degree. The CCCE has not been required to have a strong background in educational theory; the typical background, not surprisingly, is in physical therapy practice. The only requirement regarding formal background in educational theory mentioned in either the "soft data" or the UNC-CH study is a major in education required by two clinical centers.

In the UNC-CH study the CCCEs were asked whether or not they were pursuing their professional education. More than two thirds indicated that they were. Of these,24 percent reported that they were doing so through formal schoolwork; 80 percent reported continuing education. Of the 24 percent who were engaged in formal school work, 5 percent were working on a bachelors degree, 84 percent were working on a masters degree, and 11 percent were working on a doctorate. Most of those pursuing formal education intended to continue on through a masters degree; just under a quarter intended to continue to a doctorate degree. Majors of those CCCEs involved in formal education related to educational theory were: counseling, education, educational administration, and learning disabilities; these account for just over half of the degrees then being pursued.

The UNC-CH survey of the CCCEs regarding participation in continuing education, revealed that 86 percent of them had attended continuing education courses in the past three years (Table 4.1). As with the ACCE, the most popular length for short courses was less than 5 days.

The UNC-CH study examined both the experience of those persons currently filling the position of CCCE and the experience requirements for that position. All aspects of experience--patient care, teaching, supervision, and administration--will be discussed together. Table 4.2 summarizes the data from the UNC-CH study. By far, the strongest area of the CCCE's preparation was patient care. Consultation, classroom teaching, supervision, administration, and clinical instruction followed in close succession, suggesting that the actual experience background of the typical CCCE is well-rounded. As for the requirements for the position of CCCE, these ranged from no experience to over three years of experience, with an average of two years required (see Table 4.5). Some clinical centers (12 percent) required previous experience as a CI, but this was not common.

The job descriptions referred to above gave both required and recommended lengths of experience for the CCCE. The requirements ranged from none to more than five years of experience (Table 4.6). The average requirement of two years appears to agree with the UNC-CH study figure.

Clinical Instructor (CI)

The CI is the person who has direct daily contact with the student in the clinic. The literature reports that the CI is the single most important person in the clinical education of the student--he/she is responsible for the direct day-to-day teaching and supervision of the student. In addition to the clinical education responsibility, the CI may have responsibilities in the areas of direct patient care, service administration, or supervision of other staff. Information is available on these areas of responsibility from the UNC-CH study and the "soft data."

The responses of the CIs reported in the UNC-CH study may not be typical of all CIs. The questionnaire was sent to the CCCE, who was asked to hand it to a CI. When asked if the CI functioned as CCCE, 75 percent of the respondents said yes. This could indicate a large number of small centers with few staff members, or it could simply indicate that some CCCEs who also function as CIs kept the questionnaire and completed it instead of handing it to another CI. For this reason, the responses of the CI to the UNC-CH study cannot be considered typical and must be interpreted with caution.

The CI according to the UNC-CH study generally has a tremendous time commitment (an average of over 60 percent) to patient care; the patient load, though, is slightly less than the staff physical therapist who is not working with students. (See Tables 4.3 and 4.7.)

Other functions of the CI are highly varied and include: patient education, consultation, patient evaluation conferences, ward rounds or case presentations, maintaining patient-related records, staff education, participation in administrative meetings of the physical therapy service, maintaining finance-related records, and long-range service planning. Low staff involvement, however, was found in surgical observation, patient research, literature research, consultation with administration, budget development, dealing with personnel matters, administrative meetings for the whole clinical center, and internal audit. The percentage of CI time commitment to various activities is indicated in Table 4.3. Patient care was in first place, as mentioned earlier. The other activities (in order of frequency) are clinical teaching, administering other aspects of the clinical center's program, coordinating the center's clinical education program, participating on committees, and classroom teaching. (Remember that 75 percent of these CIs also functioned as the CCCE.)

The CIs were asked the number of students assigned to them. The average assignment of beginning and advanced students was approximately the same. Slightly more than half reported one student at a time; only 10 percent reported three or more at a time. The maximum number of students assigned was also basically the same for beginning and advanced students, but 45 percent of the CIs were assigned a maximum of two beginning students and 51 percent were assigned only one advanced student (Table 4.8).

When asked how they planned student activities, most CIs reported deciding on student activity by talking with the student about his/her objectives (91 percent); reviewing the student's past experiences and attempting to fill in the gaps was reported by 81 percent. About half these CIs watched the student perform and then assigned tasks to the student or fit the student in with what he/she was doing at the time. Over half responded that they usually or always used the plan developed by the CCCE, but almost one fourth never did. The plan developed by the ACCE was reported as never used by 46 percent of these CIs; only 22 percent usually or always used that plan. These figures seem to indicate that the CI does spend a notable amount of effort in developing an educational plan for the student.

The teaching methods most commonly cited as used to implement the plan were: practice, supervised activity in patient care, direct questioning, working side-by-side with the student, and demonstrating (Table 4.9). A surprising amount of activity in the area of educational material development was indicated by the CIs, particularly producing transparencies, simulated cases, and self-instructional materials; also mentioned were developing slides, tape recordings, and video tapes.

Research, another possible role for the CI was not generally pursued by these respondents. Only 1 percent were involved in research as a primary investigator, and only 6 percent were involved as one of a group of researchers. Evaluation and handling student failure can also be a function of the CI in clinical education. Almost all respondents indicated that in handling student failure, they always or usually gave the student day-to-day feedback or had a final evaluation conference with the student. Over three fourths indicated that they conferred with the CCCE but did not request removal of the student by the ACCE. Just under half reported that they sent a final report to the educational program and let the ACCE or CCCE handle the problem.

From the UNC-CH data the responsibilities and the roles of the CI appear quite varied, including the areas of patient care, service administration, clinical education administration, development of educational "software," and several other areas.

The Project received from the clinical centers 272 job descriptions of "the person directly involved with supervising the student"; examination of these supported the UNC-CH study results. Only those responsibilities that were related to clinical education in some manner were extracted from the job description. All qualifications were extracted.

No mention of any responsibilities relating to clinical education was made in 46 of the 272 job descriptions of the CI which were reviewed. Whether this could be attributed to a need to hide the educational activities of the department, an oversight, or a lack of recognition of the function of the CI, the Project was unable to determine. The responsibilities mentioned in the remaining 226 job descriptions included: supervision, instruction, evaluation, orientation, counseling, diagnosing needs, and providing communication (Table 4.10). Only those responsibilities relating to clinical education were analyzed, although the job descriptions contained much more information. Responsibilities in the area of patient care and service administration were in the job descriptions.

Results of the UNC-CH study show the CIs ranging in age from 23 to 55 with an average age of 32 years. They graduated from an entry-level physical therapy program between 1944 and 1974 (average 1966) and had eight years of full-time experience. Three quarters of the CIs were women. Only one respondent was not employed full-time.

Baccalaureate degrees were held by 64 percent of the CIs as their highest degree; 18 percent of the respondents received their initial preparation at the master's level, 6 percent had advanced preparation at the master's level, and 12 percent received their initial preparation through a certificate program. No holders of the doctorate and no physical therapy assistants were represented in this group.

Two kinds of material in the "soft data" relate to the basic physical therapy education of the CI. One is the set of CI job descriptions. No qualifications were listed on 67 of the 272 job descriptions that were reviewed. Of the remaining 205 job descriptions, 199 listed graduation from an approved educational program as a qualification for the CI, and 177 indicated that the CI should be licensed to practice. The other "soft-data" item lists criteria for selection of clinical centers, which were submitted by 51 educational administrators; 32 of these indicated that staff physical therapists were to be qualified to practice and they were to exhibit ethical conduct.

Of the CI job descriptions reviewed, only five indicated that a postbaccalaureate education or intent to pursue such was necessary for employment; five others stated that further education was recommended; two indicated that a masters degree was necessary. In the lists of criteria only three indicated that the center's staff must be oriented to clinical education; two indicated that the clinical staff should be knowledgable about the teaching-learning process.

The Project was particularly interested in the educational theory background of the CI; 12 percent of the CIs, according to the UNC-CH study, indicated that they were formally pursuing their education, and all of them were working toward a masters degree. Following is a list of the majors that presumably would include educational theory: counseling, education, administration, special education, human relations, and management. Of the 17 CIs reporting majors, 9 can be related to educational theory.

Formally or informally, two thirds of the CIs responding in the UNC-CH study were pursuing their education, and they had many opportunities available in continuing education programs. A fourth of the CIs indicated that educational institutions required attendance at a short course before they (the CIs) were allowed to work with students. Of that fourth, 85 percent had attended the short course. Almost two thirds of the CIs reported that the educational institutions offered other types of development courses or workshops that were not required; 84 percent of the CIs indicated that they had attended a continuing education course in the past three years (Table 4.1). As with the ACCE and CCCE the most popular length for a short course was less than one week.

Of the 51 lists of criteria for selection of a clinical education site, 11 stated that the staff of the clinical center should be free to attend clinical education conferences at the educational institution, and 18 stated that the professional staff should exhibit interest in the APTA and its activities.

Table 4.2 summarizes the length and type of working experience that the CIs had had as of 1975. As would be expected, the greatest amount of experience was in patient treatment. Consultation, supervision, administration, and teaching other agency personnel followed. Clinical instructors reported least experience in clinical and academic instruction and research.

More than three fourths of the CCCEs surveyed indicated that clinical experience was an important factor to consider in selection of a CI. The information available from the CI job descriptions also indicates that clinical experience is important; 132 of the 205 job descriptions stated that some length of experience is required for employment. The range of required experience is from one to five years; several job descriptions did not specify the amount of experience required (Table 4.11). Recommendations regarding the length of experience were included in addition to the requirements; 30 job descriptions gave recommended lengths of experience. Most frequently an unspecified number of years was reported, this was followed by one year, two years, more than two years, four years, one year or more, two years or more, three years, more than three years, and more than four years. Of the 51 lists of criteria for site selection that were examined by the Project, 22 included a specified amount of clinical experience for persons serving as CIs; the range was from one to three years. (See Table 4.12.)

RELATIONSHIPS

The individuals involved in clinical education do not function in isolation, as discussed in the closing section of Chapter 3. The goals of the ACCE, CCCE, and CI in clinical education are the same--to prepare a student to become a practitioner--and to meet this goal they must communicate with one another in productive relationships. Not only do the clinical faculty members relate to each other, but they also relate to the student, other persons, groups, and agencies. All of these relationships are discussed below, on the basis of information from the UNC-CH study, the "soft data," and other materials.

Faculty

ACCE-CCCE

The relationship between the ACCE and the CCCE must be a close one; indeed, the ACCE has more contact with the CCCE than anyone else in the clinical center. Together they plan the specific objectives, experiences, and evaluation procedures for the clinical education program at the center. The communication between them must be two-way. The ACCE informs the CCCE of the school's objectives for clinical education, the student's educational status during the clinical education experience, the length of the affiliation, and the coursework the student will be engaged in during the experience, as well as the coursework the student has completed. The ACCE and CCCE work closely in the evaluation program which includes evaluation of the CCCE and ACCE. The ACCE occasionally has input into the selection of the CCCE.

The CCCE, as the other half of the two-way communication process, informs the ACCE of the number of students that can be handled in the clinical center, special needs that the clinical center will impose upon the student, and the internal design of the program for the student. He/she also has input into the curriculum of the educational institution.

Finally, for both CCCE and ACCE, there is the joint work in developing and presenting continuing education programs or workshops. The relationship is generally an effective one, carried out through visits of the ACCE to the center, phone conversation, and correspondence.

ACCE-CI

The relationship between the ACCE and the CI, theoretically, is not a direct one, for the CCCE provides a link between the two in the formal organizational structure. The UNC-CH study showed almost all CI respondents (96 percent) reporting that they have direct personal contact with the ACCE. (Since 75 percent of the CIs responding indicated that they also functioned as the CCCE, this response may not be typical of all CIs.) The purposes of the ACCE-CI relationship are: faculty development, setting objectives for clinical education, designing learning experiences, and evaluation. Each of these items is discussed below.

CI participation in the continuing education programs sponsored by the academic institution is the basis of the formal faculty development contacts between the ACCE and the CI.

As for clinical education objectives and teaching, there are some discrepancies in the information on the relationship. CIs should regularly receive students' objectives for clinical education from the ACCE, but only one fourth of the CI respondents in the UNC-CH study reported that they did, and about the same low number reported utilizing the ACCE's plan for determining student activity in clinical education. The "soft data" made it clear that a major responsibility of the ACCE is the dissemination of objectives and the coordination of the clinical education program. These seemingly disparate comments can be reconciled. The CIs were not asked how often they received the objectives of the educational institutions, which can be assumed to be much more frequently than the receipt of students' objectives. This assumption is based on the inclusion in the soft data from the clinical centers of many lists of objectives that originated from the educational institution.

The lack of use of the ACCE's plan for the student activity probably indicates that the ACCE provided the CI with the basic knowledge of how to develop learning experiences for the student, as evidenced by the high degree of participation of the CI and CCCE in continuing education programs offered by the educational institution, and then allowed the CI to develop the plan, based on all the variables of the clinical situation.

The evaluation aspect of the relationship of the CI and the ACCE is threefold. First, the ACCE assists the CI in evaluation of the student. This occurs through short courses on evaluative techniques and actual assistance in handling problems such as student failure. Just over 40 percent of the CI respondents in the UNC-CH study reported regularly contacting the ACCE when problems of student failure arise.

Secondly, the ACCE evaluates the CI as part of the assessment of the clinical education site; in many cases, the ACCE even has input into the selection of the CI. Finally, the CI should have input into the evaluation of the ACCE. Little evidence exists of this occurring in a formal way at this time. All in all, the ACCE and CI appear to have a direct relationship which encompasses many areas. The relationship is more direct than was originally suspected.

CCCE-CI

The relationship of the CCCE and the CI should be a close one. The CCCE should be readily available to the CI to assist in the design of the educational program at the clinical center. Information available to the Project regarding this relationship fell in the areas of: handling student failure, determining student assignments, selection of CIs and CCCEs, and engendering interest in clinical education.

The UNC-CH study asked both the CCCE and the CI how they handled student failure. Almost all responding CCCEs (93 percent) indicated that they took information from the CI and that they talked with the student. Most responding CIs (84 percent) reported regularly conferring with the CCCE in dealing with student failure; fewer than half (42 percent) indicated that they gave the information to the CCCE and let him/her deal with the situation.

The patient load, skill, desires, and time commitment of the CI were judged by the responding CCCEs to be the most important factors in determining student assignments to a CI. More than three fourths of the CCCEs reported that student interest should be matched to CI expertise, and that the ACCE's request for student placement should be honored. More than half the CCCEs reported that matching personalities of students and CIs was desirable.

For the CCCE to make meaningful judgments regarding the various qualities and circumstances of the CIs, there must be close and effective working relationships with them.

One function of the CCCE is the selection of CIs. The most important factors to almost all responding CCCEs in the selection of a CI were the CCCE's knowledge of the CI, input of the director of the physical therapy service, and interest of the CI. Some degree of clinical experience was also considered necessary by over three fourths of the CCCEs in the UNC-CH study. To assess these functions, the CCCE must have a functional working relationship with the CI. Generally, recommendations and input from the ACCE and educational administrator, were not considered important in selecting CIs.

The selection of the CCCE also has input from several sources. Sometimes the physical therapy staff has input into the selection; 40 percent of the CCCEs reported this in the 1975 study. Considering the necessity and value of good relations between these people, this response may be considered lower than it should be. Virtually all CCCEs reported no problems in their attempts to engender interest in clinical education in the physical therapy staff.

The "soft data," with an emphasis on the coordinating role of the CCCE, imply a close working relationship with the CI. The function of the CCCE as liaison with the academic institution means there should be dialogue between both the school and the center staff.

Peers

Still another aspect of the relationships of the clinical faculty members is the peer relationship, the primary function of which is information-sharing. This can occur through clinical faculty meetings sponsored by one or a group of academic institutions. The CIs gather, not only to hear the information presented, but also to discuss problems of student supervision with other CIs. The CCCEs may discuss alternative scheduling patterns or the best utilization of CIs. ACCEs may discuss site utilization, site development, and master planning.

Student-Faculty

The clinical education activities of the clinical faculty are of course directed toward the student. The relationships discussed above demonstrate the faculty working together to facilitate student learning. The next step is to review the relationship of the student to the faculty. The process of clinical education is the subject of Chapter 5, so it is not described here. The discussion is limited to a description of the frequency and content of interaction between the student and the ACCE, the CCCE, and the CI.

Student-ACCE

The purposes of contact between the ACCE and student fall into the categories of clinical assignment, information transfer, and counseling. Assigning students to facilities for their clinical education experience is one function of the ACCE. From the UNC-CH study we can see that the student does have an input into the assignment; 85 percent of the responding ACCEs reported that the student could request a site, and 44 percent indicated that the student could actually choose a site; 32 percent gave the student no voice. This is mirrored also by responses of the new graduates; 84 percent of which reported having input into the choice of clinical education site as an advanced student at least sometimes. Relatively few ACCEs, however, reported allowing students to redesign, by-pass, or reduce the requirements for clinical education. It seems clear that the student and the ACCE have channels for communicating about clinical education assignments.

Closely tied to the selection of clinical education sites by the student is information dissemination by the ACCE. Students must have information as a basis for making requests for clinical education sites. Both beginning and advanced students need to know about special learning opportunities at clinical centers. Results of the UNC-CH study indicate active communication between the student and the ACCE regarding these topics (Tables 4.13, 4.14,4.15).

Another aspect of information dissemination between the ACCE and student is the traditional teaching role that the ACCE often fulfills. During the student's clinical education assignments the ACCE may conduct a seminar related to the student's clinical activities. This could have the purpose of providing new information, reviewing previous information, or interpreting activities in the clinical center.

The final relationship to be discussed is that of counselor. The ACCE may counsel the student in many areas, the most obvious is clinical education. The ACCE may function to help the student determine assignment locales, understand personality interactions with staff in specific clinical centers, and what centers can best meet individual needs. The ACCE may help the student handle problems regarding personnel, patients, and emotions that arise during clinical education. For this function, proximity of the clinical education site and the educational program can be quite important. The ACCE also has the responsibility of summarizing the various evaluations of the student and talking with the student regarding overall performance in clinical education. The ACCE may also counsel the student about job placement.

Student-CCCE

Only those activities unique to the CCCE and the student are discussed here. The CCCE's interactions as a CI with the student are presented under the next subheading.

The CCCE-student relationship is basically, at least in formal terms, an indirect one. The CCCE plans and schedules student activities but does not necessarily have direct student contact. The exception to this may be in orientation, orienting the student to the center either on arrival or by correspondence before arrival. The Project's "soft-data" materials indicate that this is a role of the CCCE but we have no data on how frequently or effectively this is done. New graduates responding in the UNC-CH study report that orientation is important, particularly being allowed to ask questions, observe and work with staff, having objectives of the center explained, being introduced to the staff, being informed of rules and regulations (including uniform requirements), having a tour of the department, knowing how to utilize patient records, and having time to review a case prior to involvement in that case; 90 percent or more of the new graduates reported that these items were important for both beginning and advanced students (Table 4.16 and Table 4.17 .)

The planning function of the CCCE is crucial to the clinical education process and involves interaction with the student in determining objectives for the experience. The responding new graduates indicated that their objectives were utilized in the planning of their clinical education experiences. Whether this was the result of direct CCCE-student interaction or occurred via the CI is not known.

Another source of CCCE-student contact can be direct through classroom teaching, but the CCCE is wearing the CI hat in such instances.

Student-CI

The most direct student-faculty relationship in clinical education involves the clinical instructor. The daily contact between the two is critical to the educational process. Not only does knowledge pass between them but also attitudes and opinions, for the CI serves as a role model for the student. (*118,119*)

Information is available from the UNC-CH study regarding the status of several aspects of the student-CI relationship. As for the attitudes involved in the relationship, these appear to be positive. The new-graduate respondents overwhelmingly (95 percent or more) agreed that their CIs wanted them to be good practitioners and that they were interested in students and their welfare. They soundly (97 percent or more) disagreed with the statements that the CI "couldn't have cared less" and that the CI used the student as a "sounding board for complaints." (See Table 4.18.)

The CIs also voiced many positive sentiments. The CI respondents almost unanimously agreed that the advantages of having students around outweighed the disadvantages. All CIs agreed that it was satisfying to have something to offer the students. Almost as many agreed that they were intellectually stimulated by the students and enjoyed them (Table 4.19).

The second area of the CI-student relationship to be discussed is the more traditional teacher-learner role. The first step in planning a program for the student is to determine the objectives of the experience. The new graduates indicated that their objectives as advanced students generally were obtained verbally or in writing upon arrival at the center. Only 2 percent of the new graduates indicated that their objectives were usually ignored once they were known; 58 percent stated that they were never ignored.

Between 60 percent and 70 percent of the beginning and advanced students usually heard about special learning opportunities at the center from the CI. The data suggest good communications between the student and the CI.

Another indication of the types of interaction between the student and the CI can be obtained from the UNC-CH study response about CI teaching methods. Practice, supervised patient-care activities, direct questioning, and working side-by-side with the student are the teaching methods reported most frequently by the CI. All of these indicate close work between the CI and the student, though no conclusions regarding the quality of their relationship can be made (Table 4.9).

Another indication of the recognized importance of this student-CI relationship is that 93 percent of the responding ACCEs considered the function of the CI as a role model to be important or very important. The importance attributed to teaching methods by the CI and the importance of a "good working relationship" in these activities emphasizes the necessity for the student and CI to have a positive, helpful, and caring relationship.

Other Relationships

Clinical faculty members have other relationships--e.g., with the academic faculty. The ACCE serves as a liaison with the academic faculty to keep them informed of what is happening in the clinical education portion of the curriculum. The liaison is in two directions--the ACCE must give information to the academic faculty on what is happening in clinical education with respect to the curriculum, and the ACCE must gain information from the academic faculty regarding the current academic status of the students. As mentioned earlier, the ACCE also relates to the faculty as a peer--an academic faculty member having responsibilities for classroom teaching, administration of other aspects of the academic program, counseling students, and committee appointments (Table 4.3). The ACCE needs status equal to other academic faculty in order to have the authority and prestige needed to perform responsibilities as a liaison.

The CCCE has little direct, formal contact with the academic faculty, generally dealing through the ACCE. There is occasionally some input by the academic faculty into the selection of a CCCE, but this is not common; fewer than 20 percent of the responding CCCEs reported this in the UNC-CH study.

The CI also has little direct, formal contact with academic faculty. Since the CI theoretically communicates with the educational program through the CCCE who relates to the ACCE, the CI can be doubly isolated from the academic faculty.

The CI, like the CCCE, is an employee of the clinical center, one whose responsibilities include the functions of patient care, administration, research, and the like, as well as the clinical education of physical therapy students. Scully discusses these multiple relationships in depth; see also Chapter 5 of the present report. (198) The CI's commitment to self, profession, and patients, as well as to the center, forces careful determination of what the students can and cannot do. Institutional "house rules" may require the students to be introduced to various people, to comply with regulations the CI must enforce, or to carry out treatments in a standardized way.

The CCCE and CI are performing a function for the educational institution and are often compensated for that service in nonmonetary ways. These are described in more detail later under the subheading, "Rewards and Incentives."

Many educational institutions (almost two thirds) offer staff development activities for the clinical faculty. Other links with the educational program are through faculty appointments and input into the curriculum. Some clinical faculty (approximately half of the CCCEs and one fourth of the CIs in the UNC-CH study)did indicate that they had input into the curriculum, either directly or through another individual. The clinical faculty also attend clinical education conferences at the educational institution which can bring closer faculty interactions.

Almost no information is available regarding the status of the relationship of the clinical faculty with other health professions. The UNC-CH study produced some evidence of activity between physical therapy professionals and others in planning student activity, but the relationship was not detailed. The "soft data" showed that many CCCEs and CIs have the responsibility of teaching center personnel who are not in physical therapy. This information was so general and so vague that no statements can be made about the relationship of the clinical faculty with other health professionals, except that some relationship does exist.

GLEANINGS FROM THE LITERATURE

The preceding sections describing the clinical faculty have dealt with the status that was current in 1975, when the Project began its work. This portion of Chapter 4 deals more with issues, ideals, problems, and solution approaches. It is based largely on the literature, with some reprise of opinion data from the UNC-CH study.

Characteristics and Functions

Is it important for the CI to have patient treatment experience? Must the ACCE have an advanced degree? Should clinical faculty have good public relations skills? These are some of the questions considered here; all are relevant in building a clinical faculty development program.

ACCE

Information is available in the literature regarding what characteristics and functions are considered important for the ACCE. The ACCE must possess skills in interpersonal relations, counseling, supervision, administration, planning, and listening. The ACCE must be able to encourage problem-solving in the student, utilize new developments, function as an educational change agent, and help people work together. Functions include administering and evaluating the clinical education program, developing clinical centers and clinical faculty, negotiating interinstitutional agreements, orienting students to clinical education, and being a catalyst in the entire clinical education program. To do all this, the ACCE must be interested and enthusiastic, have an understanding of the programs and problems involved, and have the institutional status necessary to carry out the functions. The ACCE should have a degree beyond that which the students will earn, and should have experience as a practitioner, CI, and administrator. *(027, 015, 199, 050, 104, 108, 154, 101, 194)*

As discussed at the beginning of this chapter, the UNC-CH study gave a cross section of views regarding the characteristics and functions of an effective ACCE (Table 4.20). Almost all respondents indicated that an effective ACCE should possess communication skills, a knowledge of clinical education, respect for the clinicians, and respect for students. Interpersonal skills, knowledge of clinical facilities, keeping the center informed, getting materials to the center on time, being approachable at all times, and possessing respect for the academic faculty were also highly rated by over three quarters of the respondents. These items can be classified into the areas of communication and interpersonal skills, knowledge of the clinical education process, and respect for individuals. ACCE functions in the development of clinical centers and clinical faculty and counseling the students obviously utilize these skills.

CCCE

A review of the literature indicates that there should be a CCCE and that the individual in this position has many roles. The CCCE has responsibilities for the clinical education program and, possibly, the clinical center physical therapy service. The clinical education responsibilities include planning and coordinating the program, individualizing instruction, counseling, and scheduling students. The CCCE must also function as a resource person and as a role model. Orienting students to the center, being familiar with the academic programs, and encouraging problem-solving in the students, round out the CCCE's clinical education responsibilities.

The clinical center responsibilities of the CCCE, directly related to clinical education, are: functioning as a liaison between the center and the school, representing the center in negotiating items such as interinstitutional agreements, orienting the staff to clinical education, and developing staff interest in clinical education. Rotation of the varied roles of the CCCE has been suggested to allow the CCCE to devote complete attention to each role for a specific length of time. Two closely allied functions of the CCCE are developing a good clinical education program and developing a continuing education program for the staff. Research and service are two roles that also are within the realm of, but are not restricted to, the CCCE. To accomplish these functions and activities, the CCCE needs the support of the clinical center administration. *(079, 176, 065, 142, 101, 185, 008,077)*

According to the literature, the CCCE should have five years of clinical experience, three years of administrative experience, a baccalaureate degree, and be a graduate of an approved educational program of physical therapy. In addition to these fairly concrete qualifications, the CCCE should also have a positive attitude toward teaching. *(157)*

As mentioned earlier, the UNC-CH study yielded data regarding the characteristics important for an effective CCCE (Table 4.21). Over 90 percent of the respondents in each group (ACCE, CCCE, AND CI) reported that being interested in work and relating well with students, were absolutely essential characteristics for an effective CCCE. Also rated as absolutely essential by over 80 percent of the respondents, were good communication skills, patient treatment expertise, respect for clinicians, and ability to relate well with the staff. Being well organized, a good clinician, and enthusiastic were rated as absolutely essential by over 70 percent of the respondents.

CI

A great deal of literature is concerned with the CI, whose functions have been identified in the areas of education, research, and patient care. *(213, 212, 030, 156, 048, 074, 016, 050, 044, 194)*

The educational functions of the CI are widespread and can be summarized under the three categories of planning, guidance, and evaluation. Planning includes setting objectives, preparing the environment, organizing, scheduling, minimizing stress, and identifying attitudes to be "taught" in the clinical education program. All of the activities involving instructing, stimulating, demonstrating, and being available to the student are included in the category of guidance. Also under guidance, the CI is responsible for developing problem-solving abilities on the part of the student and for balancing the student's need to work independently within the limits of patient safety. The CI also functions as a role model and an educational facilitator and enabler. Evaluation, used here in its broadest sense, is the third part of the educational function of the CI. The CI is responsible for self-evaluation and for evaluating the student, the clinical education experiences, and the clinical education program. *(188, 119, 187, 090, 154, 135, 059)*

Responsibilities in the areas of patient care and research also belong to the CI, as mentioned earlier. Patient care has historically been the basic responsibility of the CI, but in keeping with the many roles that physical therapy now covers, the CI may primarily be an administrator, consultant, educator, or researcher. The role of research needs to be developed in all phases of physical therapy. *(213, 051, 044)*

The literature states that the CI must be a graduate of an approved educational program in physical therapy and possess a degree beyond that which the student will obtain. *(194, 077)* Experience in special areas, theoretical background, and educational and administrative knowledge are also frequently recommended as qualifications for a CI. Project task force deliberations concluded that experience is helpful, but that fresh new ideas are also beneficial.

To accomplish the long list of functions, the CI must have some special qualifications. Good interpersonal relations, interest in and enjoyment of students and teaching, and good clinical and educational skills were highly rated by the respondents to the UNC-CH study (Table 4.22) and are reported frequently in the literature. In addition to this, the CI must be sensitive to students, possess inner security, and be open to suggestions and questions. Seven of the ten items which new graduate respondents considered to be negative factors for clinical education relate directly or indirectly to the CI (Table 4.23). A description of a poor CI presents many negatives of items previously described as desirable (Table 4.24).

It is interesting to note that the areas of expertise rated as fairly strong or stronger by 50 percent or more of the responding CIs are themselves clinical skills, interpersonal relations, patient evaluation skills, teaching skills, supervisory skills, and knowledge of physical therapy and physical therapy theory.

Clinical Faculty Development

Continuing education activities of the clinical faculty are referred to several times in this report as being desirable, but little information is available regarding the content and format of these programs. The educational institutions usually present a clinical supervisors meeting annually; the meetings are of various lengths and cover a variety of subjects (see Appendix Table A.5). However, an organized plan for development of all clinical faculty (ACCE, CCCE, and CI) does not appear to exist, except perhaps on a modest scale.

The UNC-CH study surveyed CCCEs regarding short courses and workshops offered to them when they became CCCEs. Continuing education programs in supervision, educational methodology and theory, and clinical skills were offered to about one third of the responding CCCEs; courses in communication, administration, and counseling were offered less often (Table 4.25). Over two thirds of the CCCEs indicated that the time for continuing education was adequately available; only 2 percent indicated that it was not readily available. Funds for continuing education, however, were not reported to be as available (Table 4.26). Only one third of the CCCEs had funds adequately available for continuing education. As for the CIs, one fourth of the responding CIs in the UNC-CH study reported that continuing education courses were required for them to become CIs; 60 percent indicated that courses were offered but not required.

Thus, there is activity in clinical faculty development, but no organized plan for faculty development. Activities in this area in physical therapy have been highly varied and haphazard, with a variety of topics being offered in a variety of formats by a variety of organizations over vastly different time periods.

The literature in the area of adult, continuing, and professional education is voluminous; it is referred to here only when directly applicable to clinical education and faculty development, an important focus of concern by the Project on Clinical Education. Programs should be based on sound educational principles, basic principles which are the same no matter what type of educational program is being developed. Chapter 5 of this report deals with the process of clinical education and contains a detailed section on the subject of program development. A summary of steps is included here with comments on any factors which are special to clinical faculty development.

The purpose of clinical faculty development in physical therapy is to train or improve the existing clinical faculty members and to identify prospective clinical faculty members. The underlying assumption is that the instruction of the student, and thereby the care of the patient, will improve because of the improved clinical faculty skills.

A primary function of all clinical faculty is to serve as change agents in physical therapy. In addition to pursuing their own education, each clinical faculty member has a responsibility to encourage and urge other clinical faculty members and practitioners to continually update their own skills. This was one of the basic Project recommendations set forth in Chapter 2.

Steps in Program Development

The most comprehensive presentation of the steps involved in designing an education program is found in Fostering the Growing Need to Learn, which includes the following seven steps: (225)

1. Formulate and enunciate the philosophy.
2. Clarify the goals.
3. State the objectives.
4. Assess obstacles and restraints and what can be done about them.
5. Determine the scope and thrust of the program activities.
6. Control through management.
7. Evaluate and revise.

These items are consistently found in the literature. When they are combined with the six principles of adult learning from Miller (155) a fairly complete roadmap exists for a faculty development program. An adaptation of Miller's list includes:

1. Adults must be motivated to change their behavior when desirable.
2. They must be aware of any inadequacies of their current behavior.
3. They must have a clear picture of the desirable behavior to adopt.
4. They must have an opportunity to practice that desirable behavior.
5. Reinforcement of correct behavior must occur.
6. They must have access to appropriate materials to teach them the correct behavior.

An important early step in any program development is the determination of objectives. Objectives for clinical faculty development in physical therapy can be in the areas of counseling, interpersonal relations, administration, group process, physical therapy theory and practice, educational theory, handling student failure, supervisory skills, health planning, aspects of psychology and sociology, and the unique aspects of clinical education (the teaching of attitudes, role modeling, etc.). The learners must be actively involved in planning the continuing education program; one of the necessary areas of such involvement is setting objectives for the program. Another way of determining objectives for a continuing education program is by determining the needs of the learners through patient audit, interview, observation, survey, self-assessment, and requests from the learners. (Note that the self-assessment guide contained in Appendix B of this report could be of particular value in determining areas of needed continuing education.)

The array of formats and teaching techniques is formidable. The techniques most stressed in the literature involve active participation by the learner. Adult learners, like younger learners, learn in a variety of ways. The techniques should match the objectives of the program and the learning style of the participants. The organization of the program should follow a logical sequence (see Chapter 5). The literature includes the following instructional methodologies applicable in faculty development programs: small groups, development of a tool, games, observation followed by discussion, teaching, role-playing, self-instructional units, handouts, self-evaluation, simulations, computer-assisted instruction, readings, lectures, demonstrations, practice, workshops, case studies, and presence of students. In reviewing these methodologies it should be kept in mind that adult educators do not teach, they evoke learning responses, and learning is enhanced by problem-solving, informality, freedom to make mistakes, variety, and challenge. *(210, 113)*

Many formats for faculty development activities have been described, ranging from an hour a week to formal, full-time study. Literature and logic mandate that information gained should be incorporated into the learners' daily practice and the learning should involve active participation. Regional planning would allow for the most efficient use of resources available, and the Project concluded this should be considered.

It should be remembered that the vast majority of short courses attended lasted less than one week. Over one half of the responding CIs in the UNC-CH study considered the following activities as absolutely essential in updating their skills and abilities: working with patients, short courses, inservice programs, reading, physician contact, working with students, and informal discussion with other physical therapists (Table 4.27). These should be considered in the planning of future programs. The literature has urged that the process of faculty development be ongoing and that the responsibility for it be shared by the parties involved. Almost all authors reviewed by the Project have urged active participation in continuing education, though none suggested that it be made mandatory. *(045, 225, 239, 024, 140, 189, 080)*

Evaluation, the subject of Chapter 6 and Chapter 2, Section D, is an integral part of every learning experience. In continuing education, evaluation is important for the purposes of assessing the educational program's presentation and effectiveness, assessing the learner, and establishing objectives (determining needs). The methods of evaluation of continuing education reported in the literature include before and after tests, questionnaire surveys, videotape observations, and attitude scales. The process of program evaluation is presented elsewhere in this report in much more detail. The purpose in mentioning it here is to stress that evaluation is an integral part of the program and should be provided for in the initial planning.

REWARDS AND INCENTIVES

Virtually no money passes between the academic institution and the clinical education site during the entire clinical education process. The time commitment of the CI and the CCCE to clinical education is significant, and there must be a reason for them to agree to a commitment and for the clinical center to support that commitment.

For individual clinical faculty members, the rewards and incentives for becoming active in clinical education can be tangible or intangible. The tangible rewards currently in use are actual monetary reimbursement (not frequently), attendance at continuing education programs without cost, consultation with academic faculty, tuition remission, travel costs to various types of meetings, academic appointments, use of the facilities of the educational program, promotion (and possibly salary increase), and research assistance.

Examples of intangible rewards are: personal enjoyment, intellectual stimulation, personal satisfaction, prestige, and personal and professional growth. According to the UNC-CH study, financial remuneration is minimal. Continuing education programs are being offered, but we have no indication as to whether or not the clinical center is paying for them. Academic appointments are offered by many of the educational programs and are usually offered with no financial commitment.

The intangible rewards appear to be most in evidence. The CIs reported in the UNC-CH study that they enjoy students, find them intellectually stimulating, and learn from them.

The rewards and incentives for involvement in clinical education for a clinical education center itself are also both tangible and intangible (cf. the section on costs in Chapter 3). The tangible rewards can be monetary reimbursement, increased income for services offered by students (without abuse of students), improved services, recruitment and hiring benefits, cover for vacation and sick leave by academic faculty, use of the facilities of the educational program, equipment loan from the educational program, and shared positions (shared costs). Intangible rewards include: the prestige of being associated with an educational program, staff stimulation, and improved morale.

Rewards and incentives also exist for the educational institution and the student. Without good clinical education facilities a physical therapy curriculum would not be possible. The school has constant feedback from the clinical centers regarding the relevance of the curriculum and the effectiveness of instruction. This association can serve to maintain the quality of the academic program. The educational institution may also benefit by the participation of the clinical faculty in didactic courses, thus meshing the academic curriculum with the practical aspects of physical therapy service.

The student, of course, benefits from clinical education. The process is designed to facilitate the development from student to practitioner. The greatest benefits the student receives are practicing skills and implementing classroom knowledge under the supervision of an experienced and competent CI. The student learns to integrate, to synthesize didactic and clinical knowledge, and to develop problem-solving skills.

Rewards and incentives, however, take on a different flavor when focused on students. Rather than asking what students gain from clinical education, the question can be phrased: "What do they work for in clinical education?" The top three incentives for the student, according to the new graduate response in the UNC-CH study are: develop skills, self-satisfaction, and positive feedback; the CCCEs responded similarly (Table 4.28).

The clinical education process demands a great commitment of time and effort from many persons. For the clinical center and its staff this time and effort is virtually volunteered, although it is made up in dollars earned in patient care and other rewards. To reimburse the clinical center and the clinical faculty for their support and time, the academic institution must recognize and accept its responsibility in providing both tangible and intangible rewards. Provision of these rewards serves many purposes in addition to "thanking" the clinical center staff and the clinical faculty and officially recognizing their commitment. The people can be made to feel more a part of the academic program, thereby further increasing their commitment to the program. Ultimately, thereby, all of these purposes serve the overall goal of improving clinical education.

Table 4.1
SHORT COURSE ATTENDANCE BY CLINICAL FACULTY DURING PAST 3 YEARS

Length of course	Number of courses attended			Number attending course		
	ACCE	CCCE	CI	ACCE	CCCE	CI
Less than 1 week	1-9	1-15	1-13	48	97	103
1 week - 2 weeks	1-4	1-4	1-9	28	54	54
3 weeks or more	1-6	1-6	1-6	10	21	28

Source: UNC-CH study, 1975

Table 4.2
PHYSICAL THERAPY EXPERIENCE OF CLINICAL FACULTY

Type of experience	Clinical faculty member		
	ACCE N=52	CI N=139	CCCE N=122
Patient care			
Number responding*	52	139	121
Number of years: Mean	9	8	12
Median	8	6	9
Range	2-25	1-28	1-34
Academic teaching of physical therapy students			
Number responding*	47	27	33
Number of years: Mean	6	3	5
Median	4	2	2
Range	.5-24	.5-13	.5-25
Academic teaching of physical therapist assistant students			
Number responding*	10	8	9
Mean	4	2	3
Median	4	1	2
Range	.5-6	.5-4	.5-10
Teaching other agency personnel			
Number responding*	38	123	105
Number of years: Mean	5	5	8
Median	2	3	4
Range	1-20	.5-22	.5-34
Clinical teaching of physical therapy students			
Number responding*	47	130	112
Number of years: Mean	4	4	7
Median	3	3	4
Range	1-14	.5-18	.5-27
Clinical teaching of physical therapist assistant students			
Number responding*	7	48	38
Number of years: Mean	3	3	3
Median	1	1	2
Range	.5-6	.5-24	.5-10

table continues

Source: UNC-CH study, 1975

*The "number responding" indicates the number having experience in the specified activity who submitted usable data.

Table 4.2 continued
PHYSICAL THERAPY EXPERIENCE OF CLINICAL FACULTY

Type of experience		Clinical faculty member ACCE N=52	 CI N=139	 CCCE N=122
Supervision other than physical therapy students				
Number responding*		37	119	101
Number of years:	Mean	5	5	8
	Median	3	3	4
	Range	.5-14	.5-21	.5-34
Administration				
Number responding*		31	97	95
Number of years:	Mean	6	5	8
	Median	5	3	2
	Range	.5-20	.5-24	.5-33
Consultation				
Number responding*		30	64	72
Number of years:	Mean	4	6	7
	Median	2	4	4
	Range	.5-10	.5-22	.5-29
Research				
Number responding*		29	25	32
Number of years:	Mean	3	2	3
	Median	1	1	1
	Range	.5-33	.5-10	.5-21

Source: UNC-CH study, 1975

*The "number responding" indicates the number having experience in the specified activity who submitted usable data.

Table 4.3
DISTRIBUTION OF TIME OF CLINICAL FACULTY

Activity		Frequency of response* Percentage of time											Mean**
		0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %	
Coordinating clinical education phase of curriculum	Dir***	11	58	12	9	3	3	1	1	0	0	2	1.7
	CCCE	2	53	24	8	5	5	1	0	1	0	3	2.1
	CI	11	55	14	7	3	4	2	1	1	0	3	1.8
	ACCE	0	13	15	17	19	30	0	6	0	0	0	3.6
Administrating other aspects of program (non-clinical education)	Dir***	10	26	17	14	8	8	7	3	3	1	4	3.1
	CCCE	14	25	10	11	13	12	6	4	2	2	2	3.0
	CI	15	32	12	8	7	12	4	4	2	4	2	2.8
	ACCE	18	31	29	8	4	4	4	2	0	0	0	1.9
Teaching in the classroom	Dir***	63	30	3	2	1	1	0	0	0	0	0	0.6
	CCCE	64	30	4	1	0	0	0	0	0	0	1	0.5
	CI	67	27	3	2	1	1	0	0	0	0	0	0.5
	ACCE	4	33	12	19	19	8	6	0	0	0	0	2.6
Treating patients	Dir***	8	14	8	10	11	14	8	11	11	3	3	4.4
	CCCE	6	16	10	7	11	14	8	10	8	9	1	4.5
	CI	2	6	5	7	7	14	13	10	15	14	7	6.0
	ACCE	67	29	4	0	0	0	0	0	0	0	0	0.4
Serving on committees of center and/or department	Dir***	18	55	13	6	3	2	1	0	1	0	1	1.5
	CCCE	32	50	9	2	2	5	1	0	0	0	0	1.1
	CI	38	46	8	5	2	1	0	1	0	1	1	1.0
	ACCE	21	73	4	2	0	0	0	0	0	0	0	0.9
Teaching students in the clinical setting	Dir***	9	49	17	10	4	6	1	2	2	1	3	4.6
	CCCE	5	38	23	13	8	4	2	3	3	0	2	2.4
	CI	4	35	19	12	7	12	6	1	1	1	3	2.8
	ACCE	--	--	--	--	--	--	--	--	--	--	--	--
Counseling students	Dir***	--	--	--	--	--	--	--	--	--	--	--	--
	CCCE	--	--	--	--	--	--	--	--	--	--	--	--
	CI	--	--	--	--	--	--	--	--	--	--	--	--
	ACCE	2	68	25	2	4	0	0	0	0	0	0	1.4

Source: UNC-CH study, 1975

*Frequency indicated is % of respondents replying to each item

**10 point scale
0=0% of time
10=100% of time

***Director of physical therapy service

Table 4.4
SELF-RATING OF COMPETENCIES BY THE CCCE

Competency	Self-ratings of CCCEs (%)*	
	My strongest area % (N)	A fairly strong area % (N)
Clinical skills	64 (78)	32 (39)
Knowledge of physical therapy	47 (57)	48 (58)
Knowledge of physical therapy theory	30 (36)	48 (58)
Patient evaluation skills	49 (60)	45 (55)

Source: UNC-CH study, 1975
* Number indicates the % of CCCEs responding to each item.

Table 4.5
EXPERIENCE AS A CLINICIAN REQUIRED FOR POSITION OF CENTER COORDINATOR OF CLINICAL EDUCATION

UNC-CH Study Response

Length of experience required	Percentage of clinical centers requiring (N=241) %
No experience	15
6 months	4
1 year	17
2 years	27
3 years	23
More than 3 years	15

Source: UNC-CH study, 1975

Table 4.6
REQUIRED AND RECOMMENDED EXPERIENCE FOR THE CCCE
"Soft Data" Response

Required* (in years)	Recommended* (in years)
1 1/2 - 2	2***
3	3***
Some experience (unspecified)	5***
1**	More than 5
4**	3 or more
5 (as a clinician)	More than 3****
5 (in teaching)	More than 4****
More than 5	5 or more****

Source: "Soft Data," 1974; based on 136 job descriptions of CCCEs received from clinical centers

*Numbers are listed in descending order of frequency

**1 and 4 years were indicated with equal frequency

*** 2, 3, and 5 years were indicated with equal frequency

**** More than 3, more than 4, and 5 or more years were indicated with equal frequency

Table 4.7
PATIENT LOAD OF PHYSICAL THERAPY PERSONNEL

Number of patients treated daily	Percentage of personnel responding													
	Director*		CCCE		Staff Without Student		CI		Beginning Student		Intermediate Student		Advanced Student	
	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975	Oct. 1974	Apr. 1975
0	13	13	6	2	3	4	3	5	11	11	8	9	7	5
1-4	21	26	11	12	2	3	3	1	43	40	25	24	10	8
5-9	29	24	22	24	13	14	21	22	35	36	48	46	37	40
10-19	27	28	49	49	63	62	58	59	11	11	19	22	44	44
20-29	7	6	7	8	13	16	9	7		1	1	1	3	2
30-39	2	1	1	4	3	1	3	3						1
40-49	1	1	1		1	1	1	1		1				
50-59	1	1			1			1	1	1			1	1
60-69							1							
70-79			1											
80-89			1				1							
90-99			1	1	1	1								

Source: UNC-CH study, 1975

* Director of physical therapy service

Table 4.8
NUMBER OF STUDENTS ASSIGNED TO A CLINICAL INSTRUCTOR

Number of students assigned	Percentage of CIs responding* (N=128)			
	Beginning Students		Advanced Students	
	Average %	Maximum %	Average %	Maximum %
1	52	34	59	51
2	39	45	32	35
3	5	14	2	6
More than 3	5	7	7	9

Source: UNC-CH study, 1975
* Based on % of CIs responding to each item

Table 4.9
TEACHING METHODS IN USE IN CLINCAL EDUCATION

Teaching method	Frequency of use*											
	Daily			At least once a week			Never			Mean		
	CCCE %	CI %	ACCE %	CCCE %	CI %	ACCE %	CCCE %	CI %	ACCE %	CCCE**	CI**	ACCE***
Lectures	7	4	2	40	29	36	21	15	15	3.0	2.9	2.2
Audio-visual presentations	0	1	4	14	10	46	17	23	6	2.4	2.3	2.5
Case study or conference	11	10	28	50	43	62	4	10	2	3.5	3.3	3.2
Demonstrations	48	48	60	41	32	33	0	0	2	4.4	4.2	3.5
Practice	95	92	96	5	7	4	0	0	0	5.0	4.9	4.0
Arranging observations for student	19	23	32	54	57	57	1	2	0	3.9	3.9	3.2
Simulated cases	4	5	2	14	18	60	53	47	8	2.0	2.2	2.6
Supervised activity in patient care	85	87	89	11	9	11	0	0	0	4.8	4.8	3.9
Supervised activity not in patient care	28	24	36	38	37	57	12	12	2	3.6	3.5	3.3
Self-instructional packages	2	2	2	9	4	49	72	75	10	1.6	1.4	2.4
Work side by side with students	82	77	45	11	18	42	4	2	2	4.6	4.7	3.3
Group discussions or seminars	8	15	45	62	58	49	7	4	0	3.6	3.7	3.4
Direct questioning of the student	57	78	40	35	19	51	1	0	0	4.5	4.8	3.3
Provision of role model	--	--	70	--	--	23	--	--	2	--	--	3.6

Source: UNC-CH study, 1975
*Frequency indicated is % of respondents replying to each item
**5 point scale
1=never
5=daily
***4 point scale
1=unimportant
4=very important
("Very important" and "daily", "important" and "at least once a week", and "unimportant" and "never" were equated.)

Table 4.10
CLINICAL EDUCATION RESPONSIBILITIES OF THE CLINICAL INSTRUCTOR

Rank	Frequency	Responsibilities related to clinical education
1	143	Supervises students
2	127	Instructs students
3	65	Evaluates students
3	65	Instructs non-physical therapy students
4	44	Plans the student education program
5	24	Participates in the student education program
6	21	Orients students
7	15	Counsels students
8	6	Knows program's curriculum and objectives
9	5	Evaluates student education program
9	5	Attends short courses and/or faculty meetings
10	3	Ascertains students' needs
11	2	Provides liaison with educational program
-	46	No responsibilities mentioned

Source: "Soft data," 1974; 272 job descriptions of CIs

Table 4.11
QUALIFICATIONS REQUIRED OF THE CLINICAL INSTRUCTOR

Rank	Frequency	Qualifications
1	199	Graduation from an approved school
2	177	License to practice
3	132	Patient care experience*
4	34	American Physical Therapy Association membership
5	22	Supervisory experience and knowledge
	(14)	(Knowledge)
	(8)	(Experience)
6	19	Completion of an internship program
7	8	Clinical teaching experience and knowledge
	(6)	(Knowledge)
	(2)	(Experience)
8	5	Post baccalaureate education or intent to pursue additional education
9	3	Interest in clinical teaching
9	3	Previous employment at present institution
10	2	Masters degree
-	67	None listed

---

* Required length of experience (N = 132)

1	55	Specified no experience
2	26	2 years
3	17	3 years
4	16	1 year
5	13	Unspecified
6	3	4 years
7	2	5 years

Source: "Soft data," 1974; based on 272 job descriptions of CIs

Table 4.12
QUALIFICATIONS RECOMMENDED FOR THE CLINICAL INSTRUCTOR

Rank	Frequency	Qualification
1	26	Patient care experience*
2	19	American Physical Therapy Association membership
3	5	Masters degree
3	5	Post baccalaureate education or the intent to pursue additional education
4	4	Supervisory experience
5	1	Clinical teaching experience
5	1	Previous employment at present institution
-	67	None listed

*Recommended length of experience (N=26)

1	12	Unspecified number of years
2	5	1 year
3	3	2 years
4	2	4 years
5	1	1 year to 2 years
5	1	1 year or more
5	1	2 years or more
5	1	3 years

Source: "Soft data," 1974; based on 272 job descriptions of CIs

Table 4.13

INFORMATION AVAILABLE TO ADVANCED STUDENT
BEFORE THE CLINICAL ASSIGNMENT

	Frequency of availability (%)*					
Information	Never %	Seldom %	Sometimes %	Usually %	Always %	Mean**
Transportation needs and costs	11	7	7	23	53	4.0
Housing arrangements	11	4	8	18	60	4.1
Insurance needs	16	3	7	14	60	4.0
Names and functions of staff members	23	18	17	18	25	3.0
Unique learning opportunities available	9	12	34	24	21	3.3
Strengths of the center and its staff	18	14	29	20	21	3.1
Weaknesses of the center and its staff	36	25	17	15	8	2.3
Idiosyncrasies of the center	37	22	24	15	2	2.2
Idiosyncrasies of selected staff members	57	19	16	8	1	1.8
Type of service given in physical therapy	6	4	19	29	42	4.0
Uniform requirements	4	1	7	17	71	4.5
History of the center	43	26	18	10	4	2.1
Gossip	74	14	9	2	1	1.4

Source: UNC-CH study, 1975
* Frequency indicated is % of respondents replying to each item
** 5 point scale
1 = never
5 = always

Table 4.14
STUDENT INVOLVEMENT IN CHOOSING ASSIGNMENTS

Student involvement and considerations	Frequency of response (%)* (N=130)					
	Never %	Seldom %	Sometimes %	Usually %	Always %	Mean**
As an advanced student, did you choose assignments?	8	7	17	32	35	3.8
Basis for choosing:						
Close to home and family	24	9	31	21	15	3.0
Type of physical therapy service	1	3	17	38	42	4.2
Heard it was a good affiliation	3	5	21	44	27	3.9
Low cost	32	19	21	21	7	2.5
Financial benefit from center	55	15	21	7	2	1.8
Excellent staff	5	6	27	41	21	3.7
Provided wanted experience	0	1	8	37	54	4.4
Provided wanted social atmosphere	35	28	31	4	3	2.1

Source: UNC-CH study, 1975
*Frequency indicated is % of new graduates responding to each item
**5 point scale
1=never
5=always

Table 4.15
ACADEMIC COORDINATOR OF CLINICAL EDUCATION AS SOURCE OF INFORMATION REGARDING UNIQUE LEARNING OPPORTUNITIES AT THE CLINICAL CENTER

Level of Student	Frequency with which ACCE provided information (%)*				
	Never	Seldom	Sometimes	Usually	Always
Beginning student (N=100)	22	29	25	16	8
Advanced student (N=105)	22	15	30	19	14

Source: UNC-CH study, 1975

Table 4.16
CONTENT OF ORIENTATION PROGRAMS AT CLINICAL CENTERS

Number of centers utilizing each component	Component of orientation program
115	Tour of department and hospital
103	Review of organization and administrative procedures
75	Introductions to other staff
72	Review of rules and regulations
70	Review of responsibility of students and others
56	Review of emergency procedures
48	Overview of history and philosophy of the department or facility
42	Overview of other areas
41	Overview of plan of affiliation
35	Review of evaluation process for clinical education
44	Equipm~~ent~~ review
43	Review or obtain objectives of student affiliation
23	An educational program
18	Initial or admission paper work for the affiliate
9	Review of body mechanics
7	Review background of the student
3	Obtain conference topic requests from the student

Source: "Soft data," 1974; based on information submitted by 138 clinical centers

Table 4.17
ITEMS TO BE INCLUDED IN AN ORIENTATION PROGRAM FOR BEGINNING AND ADVANCED STUDENTS AT THE CLINICAL EDUCATION CENTER

Items to be included in orientation program	Frequency of response for levels of students (%)*	
	Orientation for beginning students %	Orientation for advanced students %
Rules and regulations of the department	90	98
Tour of the facility	96	98
Explanation of objectives of the center	96	99
Department records and how to keep them	75	94
Patient records and how to keep them	90	99
Uniform requirements	94	92
Introduction to staff	98	98
Introduction to physicians	78	88
Job description of staff	74	83
Opportunity to study annual report	10	33
Opportunity to study monthly report	13	39
Location of library resources	84	88
Review of a case prior to involvement	95	92
Opportunity to ask questions	100	100
Opportunity to observe staff at work	100	96
Opportunity to work alongside the staff	99	98

Source: UNC-CH study, 1975

* The numbers represent the combined frequency of the ratings "Important" and "Very Important" as reported by the new graduates. The frequency indicated is the % of respondents replying to each item. Total number of respondents is 137.

Table 4.18

NEW GRADUATE AGREEMENT WITH STATEMENTS
REGARDING THE CLINICAL INSTRUCTOR

Statement	Frequency of response (%)*			
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
Were interested in me and my welfare	47	48	5	0
Tried to make the clinic look good	21	57	21	1
Wanted graduates to be good practitioners	50	49	2	0
Had special expertise they wanted to share with me	19	51	23	2
Wished I would go away	0	2	47	48
Wanted to make a good impression themselves	7	57	27	8
Could not have cared less	1	0	39	59
Used me for a sounding board for their own complaints	2	1	48	49

Source: UNC-CH study,1975
* Frequency indicated is the % of new graduates responding to each item

Table 4.19
CLINICAL INSTRUCTOR AGREEMENT WITH STATEMENTS REGARDING STUDENTS

Statement	Frequency of response (%)*			
	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
Advantages				
I enjoy students personally	53	45	1	0
I find students intellectually stimulating	62	37	1	0
They bring new knowledge with them	37	59	4	0
They help me treat more patients than I would be able to otherwise	5	25	54	15
It is personally satisfying to have something to offer students	57	43	0	0
Disadvantages				
Their needs and interests are so varied, it is hard for me to adjust	1	8	66	25
They make too many demands on my time and energy	1	9	57	33
They slow me down in my work	2	55	31	12
There is nothing in it for me	0	1	27	72
The advantages of having students assigned to me outweigh the disadvantages	59	39	1	0

Source: UNC-CH study, 1975
*Frequency indicated is % of CIs responding to each item

Table 4.20
IDENTIFYING THE EFFECTIVE ACADEMIC COORDINATOR OF CLINICAL EDUCATION

Traits	Ratings of skills and behaviors*								
	Absolutely essential			Useful			Mean**		
	CCCE %	CI %	ACCE %	CCCE %	CI %	ACCE %	CCCE	CI	ACCE
Good clinician	34	35	49	57	61	51	3.2	3.3	3.5
Good educator	60	71	43	38	28	57	3.6	3.7	3.4
Has communication skills	91	94	96	10	6	4	3.9	3.9	4.0
Has public relations skills	67	62	96	31	36	4	3.7	3.6	4.0
Well-organized	86	77	77	14	23	23	3.9	3.8	3.8
Knowledgable about clinical education	94	92	91	6	9	9	3.9	3.9	3.9
Knowledgable about clinical facilities	85	80	89	14	20	11	3.8	3.8	3.9
Visits center regularly	49	45	72	44	52	28	3.4	3.4	3.7
Keeps center well-informed	83	85	89	17	14	11	3.8	3.8	3.9
Gets materials to us in time	86	88	93	14	12	8	3.9	3.9	3.9
Supports center in disputes	51	41	46	39	47	46	3.4	3.3	3.4
Able to travel	43	48	81	52	50	19	3.4	3.5	3.8
A pleasant person to deal with	63	60	76	37	40	25	3.6	3.6	3.8
Flexible	75	73	85	25	26	15	3.8	3.7	3.8
Enthusiastic	72	73	72	26	27	28	3.7	3.7	3.7
Approachable at all times	82	82	87	18	18	13	3.8	3.8	3.9
Respects clinicians	95	90	96	4	10	4	3.9	3.9	4.0
Respects academic faculty	90	86	87	10	13	13	3.9	3.9	3.9
Respects students	96	97	96	4	3	4	4.0	4.0	4.0
Good interpersonal relations	89	88	98	10	12	2	3.9	3.9	4.0

Source: UNC-Ch study, 1975

*Frequency indicated is % of respondents replying to each item

**4 point scale
1.0=not useful at all
4.0=absolutely essential

Table 4.21

IDENTIFYING THE EFFECTIVE CENTER COORDINATOR OF CLINICAL EDUCATION

Traits	Ratings of skills and behaviors*								
	Absolutely essential			Useful			Mean**		
	CCCE %	CI %	ACCE %	CCCE %	CI %	ACCE %	CCCE	CI	ACCE
Good communicator	92	95	87	8	5	14	3.9	3.9	3.9
Well-organized	73	72	72	27	28	28	3.7	3.7	3.7
Good clinician	74	71	72	26	29	28	3.7	3.7	3.7
Good educator	54	65	47	46	36	51	3.5	3.6	3.5
Knowledgable of clinical education	74	90	87	26	10	13	3.7	3.9	3.9
Knowledgable of clinical facilities	65	67	34	30	33	60	3.6	3.7	3.3
Good at interpersonal relations	87	--	--	13	--	--	3.9	--	--
Good at public relations	43	52	54	53	44	39	3.4	3.5	3.5
Patient treatment experience	87	85	91	13	15	8	3.9	3.8	3.9
Experience as clinical instructor	46	55	42	54	44	57	3.4	3.5	3.4
Administrative experience/education	23	20	2	69	74	87	3.2	3.1	2.9
Flexible	84	--	--	17	--	--	3.8	--	--
Tactful	84	--	--	15	--	--	3.8	--	--
Enthusiastic	78	88	75	21	12	25	3.8	3.9	3.8
Personally secure and self-confident	80	83	70	19	16	28	3.8	3.8	3.7
Interested in work	93	97	94	7	3	6	3.9	4.0	3.9
Respects clinicians	82	91	93	18	9	8	3.8	3.9	3.9
Respects academic faculty	66	80	77	34	20	23	3.7	3.8	3.8
Relates well with staff	87	93	93	14	8	8	3.9	3.9	3.9
Relates well with students	91	96	93	9	4	8	3.9	4.0	3.9
Keeps staff informed	61	69	76	34	30	25	3.5	3.7	3.8
Supports educational program in disputes with clinical staff	54	53	24	32	32	67	3.4	3.4	3.1
Attends continuing education courses in educational theory	28	34	21	61	59	76	3.2	3.2	3.2
Attends continuing education courses in clinical education	50	52	59	47	45	42	3.5	3.5	3.6
Attends continuing education courses in interpersonal relations	26	24	25	69	70	74	3.2	3.2	3.2

Source: UNC-CH study, 1975

*Frequency indicated is % of respondents replying to each item

**4 point scale
1.0=not useful at all
4.0=absolutely essential

Table 4.22

IDENTIFYING THE EFFECTIVE CLINICAL INSTRUCTOR

Traits	Ratings of skills and behaviors*								
	Very important			Important			Mean**		
	NG %	CI %	ACCE %	NG %	CI %	ACCE %	NG	CI	ACCE
Good clinical skills	68	67	81	32	33	19	3.7	3.7	3.8
Good teaching or educational skills	71	68	74	28	32	26	3.7	3.7	3.7
Positive attitude toward teaching	88	84	85	12	17	15	3.9	3.8	3.8
Emphasis on problem solving	47	54	70	51	45	30	3.4	3.5	3.7
Humanistic attitude toward life	63	74	62	36	25	36	3.6	3.7	3.6
Good interpersonal relations	66	78	64	33	22	36	3.6	3.8	3.6
Well-read, knowledgable of research	27	18	10	59	64	71	3.1	3.0	2.9
Enjoyment of his/her work	74	80	58	26	18	42	3.7	3.8	3.6
Confident and secure of self	71	74	60	28	26	38	3.7	3.7	3.6
Willing to let students help him/her	71	71	62	29	28	32	3.7	3.7	3.6
Puts self in students' place	56	--	--	41	--	--	3.5	--	--
Willing to let students "try wings"	79	66	66	21	32	32	3.8	3.6	3.6
Knows role of physical therapist assistant	41	32	38	46	51	43	3.3	3.1	3.1
Confers 1-to-1 with students	77	89	77	22	11	19	3.8	3.9	3.7
Gives regular feedback to students	89	92	96	10	8	4	3.9	3.9	4.0
Good supervisory skills	--	63	51	--	36	43	--	3.6	3.5

Source: UNC-CH study, 1975

*Frequency indicated is % of respondents replying to each item

**4 point scale
1.0=unimportant
4.0=very important

Table 4.23
FACTORS CONTRIBUTING TO POOR CLINICAL EDUCATION EXPERIENCE
New Graduate Response

Factors	Frequency of response (%)* (N=130)	
	Poor clinical education for beginning student %	Poor clinical education for advanced student %
Not enough responsibility for student	-	95
Hostile atmosphere	90	77
Not enough to do	-	80
Too much to do it well	74	-
Not enough instruction	73	-
Supervision too close and oppressive	-	87
Would not let student do much on own	-	92
Student got tired of observing	-	80
Staff not interested in teaching	88	78
Not enough feedback from staff on student performance	78	84

Source: UNC-CH study, 1975

* Only those items that 70% or more of the respondents (NGs) indicated as very important were included. Frequency indicated is % of respondents replying to each item.

Table 4.24
UNDESIRABLE CHARACTERISTICS OF A CLINICAL INSTRUCTOR ACCORDING TO NEW GRADUATES

Characteristic	Frequency of "agree" and "strongly agree" responses* (N=130)	
	CI working with beginning student %	CI working with advanced student %
Will not let student do anything alone	85	98
Supervises too closely	-	93
Not there when needed by students	94	88
Personally insecure	88	87
Caustic or sarcastic	94	91
Does not like his/her work	98	92
Does not want students around	98	96
Personally unhappy	91	-
Unethical in practice	97	97
Lazy	96	91
Corrects students in front of patients	93	91
Does not explain enough	95	88
Has a defensive attitude	98	96

Source: UNC-CH study, 1975

* Only those items that 85% or more of the new graduates agreed or strongly agreed with were included. The frequency indicated is the % of respondents replying to each item.

Table 4.25
COURSES OFFERED BY EDUCATIONAL PROGRAMS TO NEW CENTER COORDINATORS OF CLINICAL EDUCATION

Course content	% of CCCEs indicating course(s) offered (N= 124) %
No course offered	39
Supervision	33
Educational methodology and theory	30
Clinical skills	30
Communication	27
Administration	18
Counseling techniques	13
Other areas	12

Source: UNC-CH study, 1975

Table 4.26
AVAILABILITY OF FUNDS FOR CONTINUING EDUCATION AS REPORTED BY CCCES

Availability	% of CCCEs responding (N=125) %
Funds are available and adequate	34
Funds are available, but less than adequate	45
Funds are available, less than adequate, but outside funds are sometimes obtainable	14
Funds are only available from outside sources	2
No funds are available anywhere	5

Source: UNC-CH study, 1975

Table 4.27
IMPORTANCE OF METHODS FOR UPDATING SKILLS AND ABILITIES OF CLINICAL INSTRUCTORS

Method	% of CIs rating item essential (N=140) %
Working with patients	88
Short courses or continuing education offered by the APTA	70
Inservice education at center	69
Reading books or journals	69
Working with physicians	69
Short courses offered by the educational programs	65
Working with students	61
Informal discussion with other physical therapists	55

Source: UNC-CH study, 1975

Table 4.28
REWARDS FOR WHICH STUDENT WORKS

Rewards or satisfaction	Frequency of response*					
	Strong incentive		Mild incentive		Mean**	
	NG %	CCCE %	NG %	CCCE %	NG	CCCE
Increased self confidence	84	97	15	3	2.8	3.0
Grades	25	27	51	65	2.0	2.2
A pat on the back	40	61	45	34	2.2	2.6
Self-satisfaction	92	--	7	--	2.9	--
Development of skills	93	92	7	8	2.9	2.9
Acquiring new knowledge	89	78	10	22	2.9	2.8
Constructive criticism from the CI	69	64	30	34	2.7	2.6
Opportunity to explore own abilities	72	69	26	30	2.7	2.7
Opportunity to explore own interests	52	70	45	29	2.5	2.7
Patient acceptance of efforts	81	80	19	20	2.8	2.8
Patient appreciation of efforts	75	85	24	15	2.7	2.8
Positive feedback from several sources	90	96	10	4	2.9	3.0

Source: UNC-CH study, 1975
*Frequency indicated is % of respondents replying to each item
**3 point scale
1=no incentive
3=strong incentive

Chapter 5

THE PROCESS OF CLINICAL EDUCATION

This is the topic that the Project on Clinical Education in Physical Therapy task force members particularly wanted added to the Project agenda, although it was not a requirement under the contract. Section C of Chapter 2, pages 2-27 - 2-30, presents the conclusions and recommendations concerning the process of clinical education.

Here in Chapter 5 there is a more detailed discussion of educational theory and its applications in physical therapy clinical education. The first section of text deals with the learning process. This is followed by a presentation of the major components in program development, and the chapter ends with a section on factors that influence learning in physical therapy.

THE LEARNING PROCESS

Learning is a complex process which results in a change in behavior. Exactly what goes on within the process is not known, although many factors affecting it are known. Instructors can see the results of the learning process and can affect the process by their activities. For this reason the instructor should be keenly aware of the factors that impinge upon learning. An overview of these factors is presented in the following pages. This is not a comprehensive, detailed review; only items which have a direct bearing on clinical education are presented and they are discussed only briefly.

One of the keys to learning is reinforcement. A behavior can be encouraged or discouraged by the presence or absence of positive or negative reinforcement. Positive reinforcement rewards a person for a specific behavior, and negative reinforcement withholds a reward from a learner for a particular behavior. Educational authorities are in agreement that positive reinforcement is more effective for educational purposes than negative reinforcement. The variety of reinforcements is broad. A smile, a compliment, a grade, and the progress of a patient can all be positive reinforcers. Reinforcers are never the same for any two people, and it is a challenge to the instructor to identify and utilize effective reinforcers for each individual student.

Closely allied to reinforcement is motivation; motivation is the impetus for starting and directing an activity. The Handbook for Physical Therapy Teachers (pages 71-2) identifies four concepts associated with motivation: (a) set, (b) incentive or goal, (c) drive or motive, and (d) intrinsic and extrinsic motivation. (077)

"Set" refers to some occurrence which prepares the individual for or makes him receptive to some behavior. For example, seeing a patient with a radial nerve lesion can make the student more eager to learn about the function of that nerve. "Incentive or goal" is outside of the individual and determines the direction of behavior by describing a desired endpoint. The goal of the student who saw the radial nerve patient could be to list the muscles innervated by the radial nerve. "Drive or motive" is the activating factor, causing activity to begin. The student may be scheduled to treat a patient with a radial nerve lesion in the clinic the next day. "Intrinsic and extrinsic motivation" refers to the source of the motivating factor, whether it is inherent in the activity (intrinsic) or associated with the activity (extrinsic). The student will learn the motor function of the radial nerve because it is a necessary prerequisite to the treatment of the patient (extrinsic motivation); the treatment of the patient will be pursued for the satisfaction the student derives from patient contact (intrinsic motivation). The latter is considered a much stronger motivational force. The importance of motivation in a rigorous educational program is not questioned, and the instructor should be aware of its importance. *(077, 094, 186, 050, 044)*

The clinical faculty should also be aware of Maslow's hierarchy of needs which states that basic needs must be met before higher level needs can be met. This is particularly pertinent to the clinical education of students away from the educational institution. The basic needs (e.g., room and board) must be met before the higher-level needs of learning and professional growth can be accomplished. *(144)*

One of the primary purposes of clinical education is to give the student the opportunity to interrelate all acquired knowledge and key it toward patient service. This involves the transfer of learning or the relating of one learning to another. New learnings can either build on and complement or interfere with and contradict previous learnings. Several factors affecting the transfer of learning which are pertinent to clinical education are: *(077, 231, 186, 044, 156, 194, 065)*

1. Aiming toward full mastery of each item to be learned.
2. Placing emphasis on principles rather than on facts and techniques.
3. Guiding the student in how to learn or in the process of solving problems.
4. Relating learnings to the student (making them meaningful to individual).
5. Relating previous learnings to current learnings.

Whether the student makes the relation of previous learnings to current learnings independently or with guidance from the instructor is not important--that the student see that two isolated learnings are related, however, is important.

Another method of interrelating the varied learnings of the student is the phenomenon of modeling. Learners often "adopt" characteristics or behaviors of teachers. This most commonly occurs with the student modeling after the clinical instructor (CI). Attitudes are often transmitted more easily through the process of modeling than through didactic education. *(118)* Skill development can either be enhanced or hindered when the student imitates the behavior of the CI or takes cues from the CI on how to function as a physical therapist or physical therapist assistant.

Another purpose of clinical education is the acquisition and retention of skills. A vital step in this area is the opportunity to practice that skill. Three basic principles apply here: (231, 111, 044, 194, 186, 077)

1. People learn best by active participation.
2. Overlearning or repetition of a skill is helpful in the retention of that skill.
3. Frequent short practice sessions appear to be more productive than long concentrated periods.

DEVELOPING A PROGRAM

The learning experience is the situation in which learning takes place, and logically the learning process and the learning experiences are closely intertwined. The function of the clinical faculty in physical therapy is to assure to the maximum extent possible that the learning experiences allow or foster appropriate learning. To support the learning process, the learning experiences must be carefully and thoughtfully designed in a program. The literature has much relevant material to offer in this area and much of it is in substantial agreement.

Objectives

The most basic step in the development of any aspect of clinical education is the determination of objectives. The literature is virtually unanimous in its emphasis on the importance of developing objectives as a basis for planning. (077, 231, 110, 042, 212, 079, 156, 222, 050, 111, 044, 186, 185)

Many authors favor the use of objectives written in behavioral terms. These should describe the learner's behavior at the end of the learning (what the learner is capable of or can do), the conditions under which the learner must function, and the evaluation method that will be used to assess the learning. Some authors also include the minimal acceptable level (competency level) for completion of the objective. (110)

In that format the exact meaning of an objective can be clear and thus more helpful to an instructor in planning and evaluating a program and to a student in knowing where he/she is and what to expect in the experience. However, higher-level cognitive functions, such as synthesis or creativity, may be difficult to describe and define with behavioral objectives and, for that reason, behavioral objectives may be limiting.

Objectives for clinical education (desired outcomes) have several purposes. First, they can be utilized in designing and developing the clinical education program. Only after the desired outcomes are known can a program be designed to produce those outcomes. Secondly, developing objectives can help determine the teaching methods to be used. Only by knowing the objectives of an experience can the CI determine whether the student should observe, practice, discuss, or write something. Thirdly, developing objectives can assess both the learning experience itself and the student's achievement of the objective. A fringe benefit to the development of objectives is the upgrading of the abilities of the developers. The increase in capability and commitment of persons who have been involved in the development of programs--including the development of objectives--has been documented by several sources and is certainly a phenomenon educators should be aware of. (185, 106)

The entire program has objectives and so does a specific learning experience. Objectives of a learning experience may be derived from several sources. All of them result from some type of evaluative process--asking questions about what is needed, what is available, what are the voids in knowledge. These questions can and should be asked by a variety of people. Through this process several sets of objectives can be developed. The educational institution determines objectives that the student must achieve (requirements) and that the student may choose to achieve (electives). Clinical centers determine what experiences they have to offer and the objectives for those experiences. The center may also develop objectives and experiences at the request of the academic institution or the student.

Both students and academic faculty may have unmet needs that they ask the clinical center to meet. The center then assesses its ability to meet such objectives. Student objectives may be determined by a special area of interest, knowledge of the setting in which he or she will be working, or self-assessment of personal strengths and weaknesses. All sources can provide important and meaningful objectives for learning experiences.

The clinical center's function is to make each student affiliation period a coherent experience, and the ACCE's function is to insure that all affiliation experiences come together to accomplish the overall objectives deemed appropriate by the academic institution. According to the Handbook for Physical Therapy Teachers (077) and Brown (044) the three major factors which determine the objectives in physical therapy programs are the health needs of society, the nature of the subject matter, and the characteristics of the learners. A fourth factor added by some authors is the profession. (194) The health needs of society are obviously crucial to the development of learning objectives in physical therapy. Health care is changing, both in where it is given and what is given. The objectives of physical therapy education should reflect that change. The nature of the subject matter is also changing, expanding in both breadth and depth, and the objectives of the curriculum must reflect this. In a field which is changing rapidly principles or processes rather than specific factual material should be stressed, thus equipping the graduate with tools to cope with new settings and knowledge. The characteristics of the learner are also an obvious consideration in the determination of objectives. Are they graduates or undergraduates? Are they highly capable and motivated or taking required work because they must?

More specific detail on the content of objectives is offered in the draft of essentials of an interim approved educational program for physical therapist assistants and the essentials of an accredited educational program for the physical therapist, both dated June 1974. (014) In both documents comments on curriculum start with the following statement: "The curriculum shall be designed so that upon the completion of the . . . educational program students will possess competencies in the following categories: . . ." The major categories for the physical therapist assistant are individual patient services, communication, administration, and individual growth. For the physical therapist the categories are the same except the last category is called professional growth, rather than individual growth. The specifics within each area give additional guidance for determination of specific objectives suitable for the two types of students. For the purposes of this review, however, these specifics will not be dealt with. Pinkston discusses the use of these essentials in the development of objectives for a clinical education program from the viewpoint of the clinical education center. (185)

Most of the educational programs, clinical centers, and students have their own objectives for clinical education. As indicated by the Project's "soft data" and the University of North Carolina at Chapel Hill (UNC-CH) study, many of them are written down, although some of them are not. The fact that the objectives are simply present is not adequate. Usually the objectives for clinical education, when they are written down, are not stated in behavioral terms and they are vague. They cover the broad areas of patient services, communication, administration, and individual or professional growth. In addition to these, there are scattered objectives in the areas of research and teaching. Most of the objectives are not measurable in their present written forms. From the data available to the Project, it appears that the educational process would be enhanced if the academic institutions, the clinical education centers, and the students would develop more precise objectives as the bases for planning clinical education.

Learning Experiences

The next step in the development of a program is the selection of learning experiences. Learning experiences must be identified and examined for compatibility with the specified objectives before they are actually selected. The Handbook for Physical Therapy Teachers has an excellent chapter on learning experiences. (077)

The essential elements of a learning experience are "a learner, an objective for the learner, a situation devised to produce a response that contributes to the objective, a response by the student, and reinforcement to encourage the desired response." (077) Some criteria for an effective learning experience, from several sources, are presented below.

1. Learning experiences should provide opportunities for the student to practice behaviors and deal with pertinent content.

2. Learning experiences should be appropriate to the student's level of attainment, and he/she must be capable of responding appropriately.

3. Learning experiences should allow the student to obtain satisfaction and success in performing the activity.

4. Learning experiences should help to fulfill more than one objective and should use a variety of media approaches.

5. Learning experiences should be designed to promote transfer of learning and to minimize negative secondary outcomes.

6. Learning experiences should be practical in regard to equipment, space, material, personnel, and time. (077, 044)

Dickinson states that an effective learning experience should be planned so that the learner can appreciate the goal, have a variety of experiences related to needs, have a basic understanding of the activity, experience success, solve problems independently, be personally involved, demonstrate what has been taught, have a proper progression within the experience, and not be overwhelmed by the experience. She also reiterates the six principles listed previously. (079)

Learning experiences can be divided into three types by virtue of their location and format:

1. Experiences with traditional faculty and/or in traditional locales.

2. Experiences with nontraditional faculty and/or in nontraditional locales.

3. Experiences involving nontraditional formats such as simulations.

Traditional Faculty and/or Traditional Locales

Traditional faculty refers to physical therapists involved in patient care or related activities. Traditional locales are fixed facilities, such as acute general hospitals and rehabilitation and pediatric centers, for the care of patients receiving episodic care. For a more complete discussion of traditional clinical education sites refer to Chapter 3 of this report, particularly pages 3-22 - 3-34. The experiences offered in these settings are directly related to patient care and to a lesser extent administration.

Nontraditional Faculty and/or Nontraditional Locales

The nontraditional people involved in clinical education are other than physical therapists (or they are physical therapists in nontraditional settings), who have educational experiences to offer which are pertinent to the education of physical therapy students. The variety of nontraditional faculty that have been utilized in physical therapy clinical education is quite extensive, as seen in Table 5.1. These people have not been heavily utilized, but there is some evidence suggesting that effective utilization of nontraditional clinical faculty may be increasing.

Nontraditional locales include programs, agencies, or clinical centers that care for, screen, evaluate, or otherwise serve a population that is outside of the traditional setting. The long list of nontraditional clinical education sites that have been used in physical therapy education suggests that perceptions regarding "proper" sites for clinical education are changing (see Table 5.2 and 3.7).

The UNC-CH study indicates that even though there were many types of nontraditional faculty and settings in existence in 1975, they were far outnumbered by traditional persons and traditional settings. The Project concluded that the utilization of traditional and nontraditional learning experiences in clinical education requires scrutiny by the physical therapy profession so that a determination can be made regarding the desired proportion of the two types of experiences. (See pages 3-12 - 3-14 for a discussion of nontraditional clinical education.)

Nontraditional Formats

Many alternative substitutions and supplements for clinical education are described in the literature. They are designed to overcome many of the problems that clinical education presents, such as scheduling all students for all activities, variability of patient loads, safety of the patient during treatment by the student, and lack of similarity in experiences for different students. One attempt to overcome these problems has been to devise other means of developing the skills and judgment which are usually associated with clinical education. These devices range from complex manikins that breathe and have a pulse and heartbeat, to printed patient-management problems, to slide or tape presentations. The purposes of these alternative approaches are usually either to develop skill or develop judgment. Seldom are the two purposes combined in one experience. The following examples of some of these alternatives have been taken from reports in the literature.

One is the teaching-learning interview. (086) This involves a teaching situation in which the instructor and students interview a person with a physical disability. The objectives of this program are for the student to: (a) meet physically disabled persons, (b) develop interview skills, (c) be aware of social and physical adaptations made by the interviewee, (d) be aware of support devices the person may need, (e) observe the differing roles of the physical handicap and its inherent emotional stress, and (f) realize that health is a relative term (i.e., a person with paraplegia can be healthy).

Weekly discussion sessions are another approach that has been reported. (064) A group of nine medical students met weekly without an instructor for discussion of a surgical topic of their choice. Before the discussion the instructor posted a list of references; the discussion was held without the instructor and was tape recorded; the instructor reviewed the tapes for errors, misplaced emphasis, or omissions and then conducted a final wrap-up of the subject. The response of the students was enthusiastic and supportive.

The following objectives were felt to be attained: (a) students became aware of the active nature of learning, (b) reliance on an instructor diminished, (c) critical and independent thinking was motivated, (d) students were encouraged to learn from each other, and (e) esteem between students and instructor increased. The students elected to continue the group on their own time after the clerkship and invited various faculty members to join them.

This format could be utilized for clinical education in physical therapy--e.g., a weekly seminar dealing with the clinical education experiences of the past week.

Another approach is the use of simulations. These can be faculty-produced simulated medical cases which consist of information for decision-making received from various sources (the patient, lab data, physical exam findings, etc.). Patient reactions to various treatments are also included. The student is presented with the problem and is then expected to request information just as he/she would in a clinical situation. He/she receives this information, acts on it, and if necessary reevaluates the situation and revises the plan. Built into the simulation is the opportunity for fast feedback to the student in the areas of effectiveness of treatment, costs of procedures and medication, and a general critique of the student's handling of the simulated patient. In several places these problems or cases have been computerized. (205)

Another type of simulation is done with simulated physical items, such as body parts. The student manipulates these to gain motor and discriminatory skills with no danger to patients. These simulations allow practice in areas such as respirator application, pulse and respiration measurement, induction of anesthesia, intramuscular injections, and recovery-room care. (205, 075)

A third type of simulation utilizes people mimicking or portraying patients. This ranges from the simple mimicking of an abnormal gait pattern for demonstration purposes to elaborately trained actors that students actually examine and "diagnose." Role-playing is also included in this category. (033)

Then there are self-instructional materials. These are used more in the area of teaching knowledge than in teaching skills, but carefully designed materials can provide the basis for many skills and, with good manuals and support materials, can offer the student beginning skills in some areas. Self-instructional units can be programmed texts alone or combined with visual materials. Videotapes, films, and slides can all show a student what to do while the text is explaining the material. Computers can also be utilized for self-instructional materials.

All of these formats can stretch the clinical educational resources that are available. None of them, however, eliminate the need for the student and the patient to have direct contact in traditional or nontraditional clinical education settings. These experiences supplement rather than replace clinical education; they may, however, reduce the time spent in clinical education.

Recent Data

The Project on Clinical Education discovered that the types of learning experiences actually available for physical therapy students are highly varied. There really was not much in the way of learning experiences, as defined earlier in this chapter,in the Project's "soft data." However, the UNC-CH study of 1975 did provide information on what students were doing in clinical education and what was considered important for students to do in clinical education. Specific activities and where they were carried out are discussed first.

Students most often performed their duties within the confines of the physical therapy service; many functioned at the patient's bedside and some in outpatient clinics. Very few students functioned in preventive screening clinics, out-of-hospital clinics, in the patient's home, or in other than patient-care activities. (See Table 5.2 .)

From the responding new graduates we find that over half had the opportunity as students to work with or observe the following personnel on a "sometimes or more often" basis: physical therapists, occupational therapists, physical therapist assistants, social workers, and prosthetists; speech and hearing therapists, orthotists, and students in other disciplines followed closely. Psychiatrists, vocational rehabilitation personnel, dieticians, and chaplains were not observed or worked with at all frequently. (See Table 5.1 .)

At least half of the clinical centers reported that students participated in the following activities (listed in order of decreasing frequency) at least one time per week: patient treatment, patient evaluation, writing progress notes, maintaining patient records, patient consultation prior to treatment, patient or family education, equipment maintenance, physical therapy staff education, and case presentation. (See Table 5.3 .) Choosing from a different list of activities, at least half of the responding new graduates reported the following student activities at least sometimes: staff meetings, inservice education, lectures, review sessions with specific staff members, rounds with physicians, nonpatient teaching, and administration of physical therapy services. (See Table 5.4.) Records of the physical therapy service (budgets, annual reports, job descriptions) were not used as regular teaching tools. (See Table 5.5.)

In summary, the physical therapy students were most active in traditional settings according to 1975 response, but had the opportunity to work with or observe a variety of people. The students were involved in diverse activities, most of which were closely related to patient care. The diversity available and utilized appears desirable, but it is not known to what extent the criteria for a good learning experience were met.

Other UNC-CH study information available to the Project deals with opinions on the importance of various items for good clinical education, as reported by academic coordinators of clinical education (ACCEs), center coordinators of clinical education (CCCEs), new graduates and CIs. The following opportunities were judged to be very important in the clinical education program by at least 45 percent of each of the four respondent groups: treating patients, reading patients' charts, working side by side with staff, working with a good clinician, informal discussion groups, participating in case conferences, working in teams, and helping staff members with difficult patients. (See Table 5.6 .) The following items were deemed absolutely essential for a good clinical education experience for beginning and advanced students by at least 50 percent of the four respondent groups: opportunity to practice, atmosphere receptive to students, staff interested in teaching, feedback on student performance, and students with a purpose. Six additional items were included for advanced students (Table 5.7).

The CIs were asked which were important areas to be covered in their clinical instruction of students. Over half of them indicated the following six items were very important: professionalism, clinical skills not covered in the classroom, special skills available in their centers, attitudes, interpersonal relations, and clinical skills covered in the classroom (Table 5.8). More than 50 percent of the new graduates polled stated strong agreement that more of the following opportunities would have been helpful to them during their clinical education experience: ordering equipment and supplies, using the problem-oriented medical record, arranging department schedules, participating in staff meetings, studying problem situations in physical therapy, attending department head meetings, dealing directly with referring physician, referring patients for follow-up care, and helping with weekly and monthly reports (Table 5.9).

From the data available there is little evidence whether or not well-formulated, thoughtful, learning experiences are being utilized. The evidence does indicate utilization of a great variety of sites for clinical education experience, although most students are not exposed to the wide range of experiences.

Selection and Sequencing of Learning Experiences

After the available learning experiences are identified they must be examined for compatibility with the objectives for the clinical education assignment. This must be done at two levels: each assignment must be compatible with its own objectives, but on a larger scale all of the assignments must combine to meet the overall objectives of clinical education and the curriculum. For instance, if an overall objective of a curriculum is to educate health practitioners capable of functioning in new and innovative settings but all of their clinical education assignments are in acute-care hospitals, that objective of the curriculum was not met. This could be true even if all of the assigned activities matched the objectives for them perfectly. Objectives and learning experiences are closely allied and must be compatible from the point of view of the school, the clinical center, and the student.

The selection process occurs as the objectives of the clinical education assignment are reviewed and coordinated with the learning experiences that are available and can meet those objectives. This selection should be based on the criteria of a good learning experience listed earlier in this chapter and repeated here: the experience allows the student to practice the behavior stated in the objective, is appropriate to the student's level, allows the student to obtain satisfaction, minimizes negative outcomes, is practical, applies to more than one objective, and incorporates a variety of media approaches.

The organization of learning experiences takes place in several ways. A learning experience is defined by the Handbook for Physical Therapy Teachers as having "continuity, integration, and sequence by means of horizontal and vertical organization." (077)

Brown discusses the aspects of curriculum organization which appear to be the basic factors determining the organization of the learning experiences. Continuity is described as a vertical organization and refers to learning or practicing the same activity at the same level over a period of time. Sequencing, a second type of vertical organization, provides the building blocks of the curriculum. Proper sequencing allows the basic to precede the specific, the simple to precede the complex, facts to precede problem-solving. The level of repetition does not remain the same and the student uses his past experiences and learnings to accomplish new tasks. Brown suggests several sequences--close at hand to far away, normal to abnormal, concrete to abstract, patient's problem to person with a problem.

Integration, however, relates to horizontal organization, the interdigitation of one part of the curriculum with other parts of the curriculum to create a whole. Good integration provides the opportunity for the student to learn about a specific procedure in the classroom and then to practice it in the clinical education center. The clinical center can also provide an integrated experience by involving the student in many related activities such as combining preoperative and postoperative treatment procedures with surgical observations, or relating the preparation of daily and monthly reports with budgeting or requesting new equipment. (044)

The UNC-CH study findings allow little general comment on the selection of learning experiences except that the student's objectives, past experiences, and requests for specific sites in clinical education are considered and utilized in the selection process.

The two most common methods utilized by the responding CIs to select learning experiences for the student were to talk with the student regarding his/her objectives, to review the student's past clinical education, and attempt to fill in the gaps. In selecting the sites where clinical education will occur, 15 percent of the responding ACCEs allowed students with previous physical therapy experience to redesign their clinical education and 85 percent allowed the student (with or without previous physical therapy experience) to request specific sites. Presumably that request is considered in assigning a student to a site. (See Tables D.34 and D.35 .)

The sequencing of learning experiences can only be commented on regarding the ordering of broad categories of objectives (Tables 3.1 - 3.4). The general sequence for physical therapist and physical therapist assistant students appears to be general patient care skills, followed by teaching skills, then specialized patient care skills, then administrative skills, and finally research skills. Relatively few respondents indicated that research and administrative skills were necessary for the physical therapist assistant student, even at the advanced student level.

Implementation of the Learning Experience

Implementation is the culmination of the planning and development of the learning experience. This implementation is based on the interaction of the clinical faculty, the student, and the staff and administration of the clinical center.

The instigator of the implementation of the learning experience is the ACCE, who brings the crucial elements of the student, the CI, the clinical center, and a planned learning experience together so they can interact. It is the responsibility of the ACCE for matching the student to the site and preparing the student for the clinical center and the center's staff for the student. Both the clinical center and the student should know what to expect from the other. The CI is the individual responsible for conducting or providing the learning experience. The CI works directly with the student to meet the objectives of the experience and in many cases it is the CI who developed the learning experience. (Other functions and characteristics of the ACCE and the CI are dealt with more fully in Chapter 2, Section B, and in Chapter 4 of this report.)

The student is of course intimately involved in this whole process. He/she is the learner, the one experiencing the learning process. The attitudes and abilities the student brings to the learning experience are important; its success or failure can be significantly affected by student input. The literature repeatedly states that the commitment to an activity, particularly a learning activity, is greatly enhanced by involvement of the participants in the planning phases. This method of increasing commitment to and interest in the clinical education program should be heavily utilized by the clinical faculty in the development of the clinical education program.

The clinical center is the place where the activities occur. The center "interacts" through administrative support, available space and equipment, and the general environment it provides for the educational process. Chapter 2, Section A, and Chapter 3 present a comprehensive description of clinical education centers. The effect of the clinical site on the learning experience is discussed in more detail later in this chapter.

Needs and Constraints

For clinical education to occur, adequate resources are obviously needed. These include clinical faculty, patients, equipment, records, data, and research projects. Another precious resource is time. The people involved must have adequate time to carry out their clinical education responsibilities in addition to their regular duties and assignments.

The unique aspects of clinical education show themselves most obviously in the constraints imposed on educational activities. The most basic constraint is that the typical CI was not employed by the clinical center only to teach students--he/she was employed to provide other services. Whether these services are treating patients, administering a physical therapy service, directing a research project, or consulting with a government agency, the CI must often give these responsibilities priority over clinical education activities. Such lower level of priority to clinical education activities places constraints on both the CI's activities and the activities the student might be allowed to do. For example, a well-planned learning experience on muscle testing involving a patient cannot be done unless a patient is available.

An emergency or unforeseen complication may arise with a patient and the student will be unable to complete the planned learning experience. At times these quirks of fate seem totally unconcerned with the necessities of education!

Both the examples above indicate the importance of flexibility as a characteristic of everyone involved in clinical education. The CI and student must have flexibility to deal with a problem when it arises and the ingenuity to use crisis itself as a learning experience. The CI may well be more comfortable with the uncertainties than the student will be. Sudden changes within the job setting are not that unusual, and since the CI is in a familiar element, he/she can cope with them fairly well. The student, however, is not only working in an unfamiliar setting but also acting in new ways and using newly acquired skills. These factors make it much more difficult for the student to cope with unexpected changes. The CI needs to be aware of this to help the student become more flexible.

Flexibility is not limited to the CI and the student. The ACCE must be flexible in order to accept the changes that circumstances dictate. The clinical center must also be flexible enough to allow unscheduled activities to occur. If a student is participating in a research project and for some reason the project becomes inactive for a period of time, the student needs to be involved in some other activity, at least temporarily. The clinical center must be able to accommodate this.

Evaluation

Evaluation is an integral part of the clinical education program and must be designed into the program from the beginning. Evaluation is not limited to the student. All aspects of the program need evaluation. The objectives need constant review to insure their applicability and relevance. Learning experiences need to be assessed to determine if they are meeting the objectives. The clinical center and faculty must be evaluated to determine their adequacy, and the competence of the student must be assessed. For all of these evaluations, a one-time assessment at the end of the student's assignment is inadequate. The evaluation process must be ongoing and continuous, as stressed throughout this report. Chapter 2, pages 2-31 - 2-58, and Chapter 6 should be referred to for a complete discussion of evaluation in physical therapy clinical education.

FACTORS THAT INFLUENCE LEARNING

Thus far the processes of learning and program development have been presented in fairly idealized terms, and some factors that affect these processes in the real world have not yet been discussed. These factors can generally be described as the environment in which the clinical education program is conducted--the educational institution, the clinical center, the clinical faculty, and the student; two of these subjects (clinical centers and clinical faculty) have been discussed earlier. This section deals specifically with the influence of all four factors on the process of clinical education.

Factors Related to Educational Institution

Two basic factors that influence the student's learning in clinical education are the individual's previous academic preparation and the selection of the sites where clinical education will occur. These two factors are both under the control of the educational institution; the center always has the right to refuse students, but it cannot mandate the presence of students. Both factors seem so obvious that a discussion of them is unnecessary; poor academic preparation and poor clinical education site selection seriously hamper the student's learning.

Another factor that is crucial to the student's learning in clinical education is the nature of the liaison between the academic institution and the clinical center. Two areas in which this liaison is necessary are the administrative and the educational aspects of clinical education.

The administrative areas of liaison involve developing interinstitutional agreements, scheduling, arranging for the noneducational needs of the student (room, board, emergency medical care, insurance), and determining the administrative processes for the clinical education evaluations (who will do them, what use will be made of them, grading procedures).

All of these items are discussed in other areas of this report, particularly Chapters 2 and 3. The purpose in listing them here is to indicate their significant effect on the learning process. If a student is looking for housing during the first week of an affiliation or is grossly inadequately housed, learning suffers. The noneducational needs of the student, it should be emphasized, do not need to be provided by the center, but there must be concern for how the needs will be met. These administrative details are usually handled by the ACCE and the CCCE, each acting as spokesman for his/her respective institution.

The other area of liaison, equally important but less in the public eye, is the educational liaison which coordinates a multitude of individual learning experiences into one complete educational program. There are three basic aspects of educational liaison. First the objectives of the student's assignment must be known by everyone concerned, and everyone should have input into their creation; the final decision as to specific objectives rests with the educational institution. The ACCE then has the responsibility to make the objectives known to everyone.

The second aspect of educational liaison occurs when a student has problems (academic, clinical, or even personal) during the clinical education assignment. The academic program must offer and provide support for the clinical center in handling student problems.

The third aspect of educational liaison is the provision of continuing education programs for the staff of the clinical center. The Project on Clinical Education strongly recommended that educational institutions offer continuing education to the staffs of clinical centers with which they affiliate. The evidence indicates that this is, indeed, being done to some extent. The ACCE, as liaison, can determine topics of interest to, or needed by, the clinical education center and then devise a means of supplying programs on the specified topics.

Another factor related to the educational program which is of significance to the learning at the clinical center is the scheduling of the clinical education program. This is discussed in detail in Chapters 2 and 3 of this report, particularly pages 3-5 - 3-8. The basic principle of scheduling is that the time allotted for an assignment must be appropriate for the objectives of the assignment. Some objectives require a full-time student activity, while others can be well handled on a part-time basis; students need both types of exposure.

Clinical center respondents in the UNC-CH study stated that the optimum length of time for a full-time clinical affiliation is five to six weeks for beginning students. For advanced students the respondents were almost evenly divided between five to six weeks and seven to eight weeks (see Table 5.10). Different students, however, will meet the objectives of an assignment in different amounts of time. The Project concluded that alternative or additional higher-level experiences should be available for the student who meets the objectives ahead of schedule, and the option to pursue these new experiences or to leave the clinical center early should be offered to the student.

Another aspect of scheduling is the frequency of clinical education assignments. For the most part this is determined by the dictates of the academic phases of the curriculum. The optimum arrangement appears to be frequent (at least weekly) clinical experiences throughout the curriculum culminating in a full-time block toward the end of the curriculum. This serves the multiple purposes of: (a) facilitating the transfer of learning; (b) providing frequent practice for skill development; (c) maintaining the student's interest; and (d) providing continuity, integration, and sequence for the curriculum.

Analysis of the status of the academic preparation of the student was not within the scope of this Project. Some data do exist, however, regarding the clinical centers' views on the preparation of the student. Only 3 percent of the clinical centers surveyed in the UNC-CH study terminated an affiliation and only 11 percent of the centers refused to begin a clinical education program with a certain educational institution due to poor student preparation.

As mentioned before, some continuing education has been offered. From the data available, the system of liaison between educational program and clinical center for continuing education purposes appeared functional. A majority of the programs stated that they offered continuing education courses for their affiliating centers (51 to 78 percent). A significant problem reported, however, is the dissemination of objectives. From a survey of the CIs, 44 percent of those responding reported never receiving the student's objectives for clinical education from the ACCE. The other 56 percent received them erratically. The clinical centers appeared to handle the problem of student failure within the center a majority of the time. Most often the ACCE was not involved in the problem.

The liaison on administrative matters was considered adequate. The centers seemed committed to seeing that the students' needs were met, whether or not they actually provided the services. As for liaison in terms of personnel selection, less than half the centers indicated that the academic institution had some degree of input into the selection of the CCCEs and CIs; just over one fourth of the ACCEs indicated input into selection of CCCEs. Generally educational institutions set the dates for clinical education assignments. Sometimes they indicate a time period, and the center sets the specific date, but most commonly this is considered an educational institution function. The center, of course, is not committed to accepting students if there is a conflict. Table A.2 indicates the frequency of usage of various patterns of clinical education reported from the project's "soft data." The concurrent pattern with a final full-time block was by far the most common. (For further detail on academic preparation, site selection, administrative and educational liaison, and scheduling, see tables in Chapters 3 and 4.)

Factors Related to Clinical Center

The clinical center is one of the crucial elements of the learning experience and virtually anything that affects it will also affect the learning that occurs there. The clinical centers are discussed in detail in Chapter 2, Section A, and Chapter 3 of this report. Some factors related to the clinical education site, though, have such a direct bearing on the learning that occurs that they should be repeated here.

The primary factor in the clinical center which affects learning is the atmosphere of the center. A positive, trusting, helping environment facilitates learning; it is dependent on the people, the administrative style, and the educational style of the center. Related to all of these are the continuing education activities of the staff, both as a comment on the staff's interest in professional growth and on the administration's commitment of time and/or funds for staff attendance at continuing education programs. The continuing education activities of the staff may also be indicative of the quality of skills possessed by the center's staff, which in turn affects the learning that occurs there. Continuing education programs presented by the clinical center for outside persons (workshops, short courses) can also indicate the educational philosophy of the center as well as its areas of expertise.

The student's learning is obviously affected by the variety of opportunities offered in a clinical center. Also important is the relationship of the institution to outside agencies. If the center isolates itself from other agencies, the student cannot learn about interagency cooperation. The variety of learning experiences depends also on the resources available to the center. One center's resources may be in a great breadth of patient care experiences; another's may be very specific to the preschool child or the elderly and offer great depth. Both can offer fine learning experiences, but they will be different types of learning.

The location of the clinical center can also affect the student's learning. If the clinical center is at a distance from the educational institution, the student may have a different approach to clinical education than when there is close proximity and the student feels at home. The communication between the two institutions may also be more difficult, and problems in communication can interfere with learning. A more obvious effect of the location would be the type of care offered. A rural health clinic, an inner-city free clinic, and a university medical center may offer very different experiences for a student.

The clinical center's objectives for clinical education also have a bearing on learning at that site. The absence of objectives could indicate a disorganized or disinterested center. The presence of objectives could indicate the opposite. Obviously, the content of the objectives has significant bearing on the learning that should occur.

The final item related to the setting which affects the student's learning is the way the students are viewed in the clinical center, both collectively and individually. If one place sees students as an addition to the workforce, the learning experiences will be quite different from those in another, such as a large clinical center which employs a full-time CCCE to insure that the students receive the best possible experience. If the staff is not knowledgable about the student's level and background, the experience assigned to the student might not be as fruitful as when the staff knows both the previous and current academic coursework.

All of these items have a distinct impact on the learning that can occur in a clinical education center. They must all be monitored and considered in the selection and/or maintenance of a center as a clinical education site, as discussed in Chapter 3.

Factors Related to Clinical Faculty

The functions and characteristics of effective clinical faculty members are discussed at length in Chapter 2, Section B, and Chapter 4 of this report. The primary characteristics of the faculty which affect learning are affective in nature. Repeated references to the importance of such affective characteristics as interest in students and patients, enthusiasm for and enjoyment of their work, and good interpersonal and communication skills are found in the literature and the results of the UNC-CH study.

Behaviors of the clinical faculty also have a great effect on learning. From both the literature and the UNC-CH study we find that supportive, helpful, and understanding teacher behaviors, as well as skillful use of instructional media and patient treatment and evaluation techniques, contribute to an effective clinical faculty member. *(213, 090, 064, 097, 188, 110, 187, 030, 025, 087, 044)*

Another factor affecting learning in the clinical center is the degree of involvement of the clinical faculty with other groups of health teachers, students, and practitioners. A learning experience may have one impact if the CI is aware of, in contact with, and involves other professionals, and a different thrust if the CI is working without that contact. If an experience is designed to promote the concept of treatment teams, but clinical faculty members are unaware of the functions of the other team members, the learning experience may suffer.

The teaching and treatment skills of the clinical faculty have direct implications for the learning that occurs in the clinical education setting. The necessity for regularly updating these skills should be obvious. The knowledge required to function as deliverer of patient care, administrator, or researcher is constantly expanding and changing. The CI, therefore, must update job skills continuously to maintain an adequate level of competency. In addition to this, the CI must also develop educational skills in order to function competently in the role of instructor. The willingness to update these skills also indicates a degree of commitment that is desirable in a clinical faculty member.

Another indication of the commitment of the clinical faculty member is willingness to spend extra time with the clinical student. The needs of the student are not confined to a working day, and persons who accept clinical education programs implicitly accept the responsibility of meeting the student's needs--both educational and, to some extent, personal. Time and effort spent meeting student needs and developing the clinical education program can have a distinct influence on the quality of learning in clinical education.

Factors Related To Student

The student is the center of the clinical education process, which should be for the student's benefit directly and the public's benefit indirectly. Since learning is a process which occurs within the learner, it is only reasonable to assume that factors which affect the learner affect the learning.

One of the most significant factors affecting the student's ability to learn in the clinical education setting is his or her preparation, both academic preparation and preparation for each individual clinical education center (orientation). Academic preparation and the noneducational needs of a student have been previously discussed. The preparation for an individual center, however, includes several additional elements. The student must be oriented to the clinical center's rules and regulations, types of patients, staff members, and other characteristics before getting on with the business of learning.

A second highly significant factor affecting the student's learning in clinical education is related to individual commitment. If a student is committed to an experience, it will be obvious in his/her attitudes toward the experience and performance during the experience. Commitment to the program can be significantly affected by allowing and utilizing student input into the program. The student should be encouraged to verbalize and develop individual objectives for clinical education. These should then be utilized in planning the clinical education experience. The student should also have input into the selection of sites for the clinical education experience. The difficulties and complexities of scheduling usually do not, and should not, permit the student to have the final decision on the settings. The Project concluded that student input, however, should be considered. From the UNC-CH study it can be said that the the students usually had objectives for clinical education which were seldom ignored. The students also were allowed input into the choice of sites for their clinical education by at least 85 percent of the educational programs surveyed.

Conclusion

All of these factors related to the educational institution, the clinical center, the clinical faculty, and the student have significant effects on the learning that occurs during clinical education. In addition to these, there are a multitude of other factors totally beyond the control of anyone--an unusually low patient-care load, sickness, withdrawal of federal support funds, a bad night's sleep, or a sudden change in a clinical center's staff. The key to preparing clinical faculty to cope with a majority of these items is flexibility and understanding combined with a strong educational and/or practice background. The former allows the person or institution to adapt to the suddenly changed situation and the latter provides a storehouse of replacement or remedial activities that are not simply "busywork."

Faculty development was discussed in Chapter 4, and Chapter 3 deals with the clinical education site. The present chapter draws heavily on both subjects in discussing the process of clinical education. Evaluation is the subject of Chapter 6, and it relates to all three--the place, the people, and the process.

Table 5.1
PERSONNEL WITH WHOM STUDENTS HAD CONTACT
N=130

Personnel	Frequency of contact (%)*				
	Never %	Seldom %	Sometimes %	Usually %	Always %
Physical therapist	0	0	0	19	82
Physical therapist assistant	21	22	33	14	11
Occupational therapist	7	15	40	27	11
Social worker	13	31	45	8	3
Prosthetist	11	35	42	10	2
Orthotist	17	36	34	10	2
Dietitian	66	22	11	0	2
Chaplain	76	19	3	2	0
Speech and hearing therapist	19	33	41	7	0
Vocational rehabilitation counselor	46	29	20	5	0
Psychological services staff	43	30	21	6	1
Students in above disciplines	25	29	34	9	3

Source: UNC-CH study, 1975
* Frequency indicated is % of new graduates responding to each item

Table 5.2
LOCATION OF CLINICAL EDUCATION ACTIVITIES WITHIN CLINICAL CENTERS

Clinical Center Response
N=250

Location of experience	Frequency of response (%)*				
	Never %	Seldom %	Sometimes %	Usually %	Always %
Physical therapy department	3	0	6	70	22
Bedside	7	9	63	14	8
Outpatient clinic	37	13	29	13	9
Preventive or screening program	67	18	12	1	2
Patient's home	67	18	10	2	4
Out-of-hospital clinic	80	6	5	2	6
Physical therapy facility other than own	84	10	5	1	0

Source: UNC-CH study, 1975
* Frequency indicated is % of clinical centers responding to each item

Table 5.3
STUDENT PARTICIPATION IN CLINICAL CENTER ACTIVITIES

Clinical Center Response

Activity	Frequency of participation (%)* (N=250) At least once a month %	At least once a week %	Daily %
Patient or family education	12	39	41
Consultation	5	32	49
Case presentation and/or ward rounds	18	51	3
Observation of surgery	32	3	0
Patient treatment	0	2	97
Patient evaluation	3	22	73
Writing notes about patients	2	27	69
Covering outpatient clinics	15	19	22
Direct contact with physician	8	38	42
Staff education (PT related)	27	48	9
Patient research	12	17	7
Literature research	27	27	6
Consultation with administrators	13	12	3
Budget development	4	1	0
Dealing with personnel matters	10	9	3
Depatmental administrative meetings	25	39	2
Interdepartmental administrative meetings	16	19	0
Long-range departmental planning	9	3	0
Internal audit	6	3	2
Ordering or purchasing	11	7	1
Maintaining patient records	2	18	75
Maintaining financial records	4	4	32
Supervision of other personnel	8	18	31
Maintaining equipment	9	14	49

Source: UNC-CH st[illegible]y, 1975

* Frequency indicated is % of clinical centers responding to each item

Table 5.4
STUDENT PARTICIPATION IN CLINICAL CENTER ACTIVITIES

New Graduate Response

Activity	Frequency of participation (%)* (N= 130)				
	Never %	Seldom %	Sometimes %	Usually %	Always %
Consultation services	25	26	32	12	4
Teaching (other than patient)	20	19	43	14	4
Administration of physical therapy service	19	22	33	19	8
Planning new types of patient or community programs	48	35	12	5	0
Research activities	50	30	15	4	1
Independent study projects	34	27	26	9	3
Staff meetings	5	12	24	32	27
Labor relations	75	16	7	2	0
Inservice education	9	9	26	31	25
Rounds with physician	22	19	29	24	8
Review sessions with specific staff	19	21	32	21	8
Lectures or presentations of new materials	12	19	30	31	9

Source: UNC-CH study, 1975
* Frequency indicated is % of new graduates responding to each item

Table 5.5
RECORDS NOT WIDELY USED FOR STUDENT LEARNING

Type of record	Percent of clinical centers never using record % (N=250)
Annual record of departmental activities	80
Budget for physical therapy	79
Annual record of all treatments	71
Long-range departmental plans	66
Monthly record of departmental activities	65
Minutes of staff meeting	63
Monthly record of all treatments	50
Job descriptions	43

Source: UNC-CH study, 1975

Table 5.6
IMPORTANCE OF LEARNING OPPORTUNITIES

Learning opportunities	Frequency of response*											
	Very important				Important				Mean**			
	NG %	CCCE %	CI %	ACCE %	NG %	CCCE %	CI %	ACCE %	NG	CCCE	CI	ACCE
Treating patients	99	100	98	100	1	0	2	0	4.0	4.0	4.0	4.0
Giving case reports	34	25	29	23	48	55	56	60	3.1	3.0	3.1	3.0
Helping staff with difficult patients	62	52	48	45	35	43	49	47	3.6	3.5	3.5	3.4
Working on independent study projects	19	14	14	9	41	50	57	60	2.8	2.8	2.8	2.7
Participating in case conferences or ward rounds	74	66	61	45	24	32	38	51	3.7	3.6	3.6	3.4
Reading patient charts	89	87	89	81	10	12	11	17	3.9	3.9	3.9	3.8
Parallel reading in books and journals	40	43	45	28	54	54	52	70	3.3	3.4	3.4	3.3
One-to-one discussion with staff	80	-	-	-	18	-	-	-	3.8	-	-	-
Observing	63	54	56	35	32	41	38	56	3.6	3.5	3.5	3.2
Informal group discussion with staff	61	78	67	72	36	21	31	28	3.6	3.8	3.7	3.7

Source: UNC-CH study, 1975

table continues

* Frequency indicated is % of respondents replying to each item

** 4 point scale
1 = unimportant
4 = very important

Table 5.6 continued
IMPORTANCE OF LEARNING OPPORTUNITIES

Learning opportunities	Frequency of response*											
	Very important				Important				Mean*			
	NG %	CCCE %	CI %	ACCE %	NG %	CCCE %	CI %	ACCE %	NG	CCCE	CI	ACCE
Working in teams	51	68	60	43	43	31	39	55	3.4	3.7	3.6	3.4
Working with a good clinician	89	85	80	87	10	15	19	13	3.9	3.9	3.8	3.9
Attending staff meetings	47	40	45	40	41	51	45	51	3.3	3.3	3.3	3.3
Using audio-visual materials	13	12	9	8	45	57	58	42	2.7	2.8	2.7	2.5
Listening to lectures	-	22	17	6	-	51	61	55	-	2.9	2.9	2.6
Working side by side with staff	-	90	74	87	-	9	26	12	-	3.9	3.7	3.8

Source: UNC-CH study, 1975

* Frequency indicated is % of respondents replying to each item

** 4 point scale
   1 = unimportant
   4 = very important

Table 5.7

FACTORS ABSOLUTELY ESSENTIAL FOR A GOOD CLINICAL EDUCATION EXPERIENCE

Factors essential for beginning students*	Factors essential for advanced students*
Opportunity for student to practice patient care	Opportunity for student to practice patient care
Atmosphere receptive to students	Atmosphere receptive to students
Staff interested in teaching students	Staff interested in teaching students
Sufficient feedback on performance	Sufficient feedback on performance
Students with a purpose	Students with a purpose
Assignment sufficiently long to accomplish objectives	Assignment sufficiently long to accomplish objectives
Students that are well-prepared	Students that are well-prepared
	Patient variety
	Talented staff
	Variety of educational experiences
	Opportunity for student to explore own objectives

Source: UNC-CH study, 1975

*Factors listed were indicated as "absolutely essential" by at least 50% of the respondent groups (ACCE, CCCE, CI, and NG) of whom the question was asked.

Table 5.8
IMPORTANCE OF SUBJECT AREAS FOR INCLUSION IN CLINICAL EDUCATION

Clinical Instructor Response
(N=140)

Subject areas	Frequency of response (%)*			
	Very important %	Important %	Not very important %	Unimportant %
Clinical skills covered in the classroom	51	42	7	0
Clinical skills not covered in the classroom	71	28	0	1
Attitudes and values	67	31	2	0
Skills in interpersonal relations	63	33	4	0
Teaching skills	36	55	9	0
Special skills available at your center	70	28	3	0
Administrative skills	16	61	19	4
Professionalism	73	24	3	0

Source: UNC-CH study, 1975
* Frequency indicated is % of CIs responding to each item

Table 5.9
DESIRABILITY OF EXTENDING OPPORTUNITIES FOR PARTICULAR CLINICAL EDUCATION EXPERIENCES (NEW GRADUATE RESPONSE)
(N=130)

Clinical education experiences	Frequency of response (%)*			
	Strongly agree %	Agree %	Disagree %	Strongly disagree %
Teach classes of aides and orderlies	12	43	41	4
Help with weekly and monthly reports	6	50	39	6
Attend department head meetings	13	53	32	2
Do more testing and evaluation of patients	59	30	11	1
Write case reports	18	42	36	4
Study problem situations in PT	32	54	14	0
Spend more time in independent study	9	39	47	5
Participate in staff meetings	31	54	14	1
Deal directly with referring physicians	40	51	10	0
Observe physicians examining patients	37	51	11	2
Refer patients for followup care	32	45	22	1
Write progress notes	41	36	22	1
Order equipment and supplies	13	62	21	5
Arrange department schedules	15	54	28	3
Use POMR	19	60	18	3
Receive feedback from clinical staff on performance of tasks and procedures	56	29	14	1

Source: UNC-CH study, 1975

* Frequency indicated is % of new graduates responding to each item

Table 5.10
CLINICAL CENTER RATINGS OF ADEQUACY OF LENGTH OF CLINICAL ASSIGNMENTS

Schedules for:	Frequency of response (%)* (N=127)			
	Too long %	Adequate %	Too short %	No response** %
Beginning students				
Less than 1 week	0	3	34	63
1 week	0	6	28	67
2 weeks	0	16	22	62
3-4 weeks	2	25	16	57
5-6 weeks	7	32	4	58
7-8 weeks	16	19	0	65
9-10 weeks	21	13	0	66
11 weeks or longer	27	2	1	71
Advanced students				
Less than 1 week	0	0	49	51
1 week	0	0	47	54
2 weeks	0	2	46	52
3-4 weeks	0	26	46	28
5-6 weeks	1	70	13	17
7-8 weeks	10	43	1	47
9-10 weeks	31	17	0	53
11 weeks or longer	38	9	0	54

Source: UNC-CH study, 1975

* Each clinical center rated the adequacy of only those schedules in current use at that center (see "Not in use" column). Percentage indicated is the % of clinical centers responding to each item.

**Respondents were instructed to rate the length of clinical assignment only if they were currently utilizing assignment periods of that length.

Chapter 6

THE EVALUATION PROCESS IN CLINICAL EDUCATION

Evaluation in clinical education takes many forms and covers a variety of individuals, groups, and institutions, and it should always be an integral part of the process of planning an educational program. This was a firm conclusion of the Project on Clinical Education in Physical Therapy, as discussed in Section D of Chapter 2 (pages 2-31 - 2-58). The present chapter includes further information on the subject of evaluation. It begins with a brief statement of evaluation purposes, and then goes on to present some basic considerations in planning an evaluation program. There is a section on evaluation methods, including steps in instrument development, and the chapter ends with commentary on several evaluation focal points in clinical education.

PURPOSES OF EVALUATION

Several purposes have been attributed to evaluation. One is that it helps to determine the worth or value of something--a person, a group, a program, a process, a place, an institution, or a curriculum. Another purpose is to gather information that can serve as the basis for judging alternatives and making decisions. Evaluation is necessary to obtain meaningful feedback about the educational process.

Evaluation can also be described as being performed for predictive purposes, in order to predict performance or expected outcomes; for descriptive purposes, in order to describe a program, thing, or person; and for prescriptive purposes, in order to have a basis on which decisions can be made and prescribed actions detailed and implemented.

In education today, there is a trend toward closer examination of what is being accomplished, and how the accomplishments are being made. There is a growing attempt to hold the educational institution accountable for what is learned rather than for what is taught. "Accountability," a term with connotations of legal liability, may be partially defined by contrasting it with "evaluation.

Evaluation is concerned with effectiveness; accountability is concerned with both efficiency and effectiveness. Evaluation is likely to be internal and to emphasize input and process; accountability is usually external, emphasizing output. Input, output, and process--combining both evaluation and accountability--are intimately related as an evaluation process in some evaluation schemes. (193) Accountability shifts the learning responsibility away from the student and onto the educational institution and the faculty, which are held accountable for student accomplishment. Demands for accountability may come from society; the public may invade a profession and seek to control the quality, quantity, and cost of the service it provides. Demands may come from governmental agencies, legislatures, the courts, law enforcement agencies, and statewide governing boards and coordinating agencies. On the other hand, accountability may be internal. There is currently a trend in educational institutions toward codification of the internal decision-making process (including codifying faculty rights and responsibilities) and toward increasing concern with management, with attempts to relate managerial efficiency to educational effectiveness. (165)

Evaluation should encompass every objective valued by the educational institution. "Appraisal" may be defined as the process of deciding whether or not the objectives have been achieved according to criteria either available or developed. The term "evaluation" is also often used in this narrow sense, but more broadly defined, evaluation is "a process through which organizations perceive the consequences of action, assess their meaning for future action, and reformulate plans and policies." (223)

Basically, evaluation in the educational process should be carried out to determine whether or not the objectives which were established, the criteria which were identified, and the learning experiences through which the student progressed have been effective in producing an individual who is capable of satisfactory performance as a graduate. But evaluation must do more than determine whether or not certain objectives were achieved; at some point it must also consider whether or not they were worth achieving. A program, course, or curriculum may be deficient in its objectives; its objectives may be overly restrictive, or not current. Objectives should be regularly analyzed for consistency and cohesiveness. (197)

Some of the complexity of evaluation is revealed by looking at the multiplicity of purposes it may have. In addition to the general terms already used, evaluation may be described as diagnostic, formative, or summative. Diagnostic evaluation for clinical education in physical therapy is frequently needed to determine the current level of competency of the students before they are assigned to a clinical education site, or the status of a clinical center before a contract is negotiated. Formative evaluation is needed during the assignment period to determine if clinical faculty and students are performing as well as desired or expected. Summative evaluation finalizes the process and takes place at the end of an assignment or term, or at the end of the curriculum, to determine if objectives of all components of the clinical education process have been met, and if all competencies have been achieved and at what level.

In addition, evaluation may have licensure or certification of an individual or accreditation of an institution as its purpose. And evaluation may be carried out as a form of justification, to defend what is planned or what has been done; as a form of auditing, to monitor an ongoing activity in order to make it conform to a standard; or as a form of learning, to provide a basis for changing activities, objectives, or standards of behavior. (223) Any educational program may be thought of as a group of hypotheses; an evaluation may be regarded as the application of the scientific method to educational phenomena in an attempt to prove or reject these hypotheses. (169)

Scriven characterizes evaluation in education as the attempt to answer certain types of questions about educational "instruments" (an all-inclusive term which he uses to refer to teachers, teaching techniques, educational media, curricula, and the like). Its purpose as such is to determine how well the instrument performs, how it affects students (and other variables), and whether or not it is worth what it costs. (197)

Regardless of one's source of information or guidance, it is a vital part of the evaluation process to determine the purposes for which the evaluation program is to be designed and implemented prior to taking the further steps in developing the program, as discussed in the following pages. The important thing to remember is that the ultimate goal of an evaluation program is improved performance, end-products, or outcomes, depending upon one's preferred terminology, and not measurement for the sake of measurement or ritualistic response to formal demand.

To summarize the foregoing, evaluation has specific purposes for certain situations. For physical therapy education one role would be to determine the outcome of student learning. A second role would be to determine the value of the curriculum, whether or not it has fulfilled its objectives and if the objectives are valid and appropriate. A third role might be assessment of the administrative structure and managerial effectiveness of the educational institution, the clinical center, and the interorganizational relationship.

BASIC CONSIDERATIONS IN EVALUATION

Overview of the Process

A simplistic way to look at evaluation is to say that it has the following stages: planning, implementing, evaluating the data, interpreting the results, and replanning. (193) For purposes of Project deliberations, the seven-step cycle applied in Chapter 2 appears appropriate in describing the evaluation process involved in clinical education (see Figures 2.1 and 2.2 on pages 2-32 and 2-34).

Step 1 is to determine the objectives, the rationale, the reasons, or the purposes for evaluating the clinical education site, the clinical faculty, the student, the learning experiences, and the curriculum. In the literature, this has been described by some as part of the planning process and as that phase called determining desired outputs, those things which are desired to be accomplished.

Step 2 is to determine the criteria by which the objectives will be judged. This step has been called establishing desired inputs.

Step 3, sometimes considered part of the implementation stage, is to determine the processes to be carried out and who will do the work to develop the methodologies, devices, or instruments. In clinical education many people should be involved in this determination activity--students, clinical faculty, administrators, consumers of physical therapy services, and peers of both students and faculty. This activity, frequently called the desired process, should also determine when the processes should take place, who will utilize the devices or instruments which have been designed, and for what specific purpose the devices will be used. Examples of diagnostic, formative, and summative purposes are to diagnose a student prior to assignment, to assess the level of achievement during a period of assignment, and to determine the level of competency achieved by the student at graduation time.

Step 4 is to put in motion the processes previously determined to gather the data and interpret it.

Step 5, part of the evaluation phase, requires those responsible to feedback information to the evaluatee. Without adequate and complete feedback, the entire evaluation process serves a limited purpose. The findings should be used to reinforce the good and to point the way to modification and changes in those areas that need new directions, new behaviors, or new levels of performance. Evaluation can provide objective information upon which to base modifications of the educational program.

Step 6 is part of the replanning phase where, based on an analysis of the data, modifications are made in the objectives (new desired inputs) and new criteria are determined (new desired outputs). In clinical education, these modifications need not wait until the end of the year, but can take place within an assignment, within a term, or even on a brief day-to-day plan.

Step 7 is to implement the new objectives (new desired outputs) by making changes based on best judgment and the receptiveness of those evaluated.

The preceding is a very brief recapitulation of the evaluation process as diagrammed in Figures 2.1 and 2.2 and as described on pages 2-33 and 2-35. The reader is also alerted to the step-by-step applications to the evaluation of places, people, and process in the text of Chapter 2 (pages 2-41 - 2-58).

In physical therapy education a great deal of emphasis has been placed on evaluation of the student, with lesser emphasis being placed on the evaluation of the clinical faculty, the clinical center, the curriculum, and the learning experiences. The literature places greater emphasis on performance evaluation of individuals than it does on evaluation of organizations or programs. The Project's effort in the area of evaluation has been not only to direct attention to the formulation of more adequate performance evaluation programs, but to acknowledge that sound methodology must also be applied in evaluating the clinical education site, the clinical education program, and the learning experiences in which the students are involved.

Preliminary Questions and Cautions

As described in the preceding pages overviewing the entire evaluation process, an evaluator typically proceeds by ascertaining what the objectives are for a given educational situation and then determining the criteria by which the achievement of these objectives can be measured. In addition to deciding upon criteria, one must select methodology to measure the abstract quality in which one is interested. Methodology, including instruments and their development, is discussed in detail later in this chapter. Here the emphasis is on some preliminary questions to be asked and some pitfalls to be wary of.

In conducting an evaluation, one must obviously determine what is going to be evaluated, why, by whom, and how. First is the focus: what person (e.g., student or faculty member), organization (e.g., clinical center), process (e.g., learning experience or curriculum)? In what period (e.g., a semester or an entire program)? What questions need to be asked? Second is the purpose: why the evaluation? What is the evaluation process designed to achieve? Third is the source: evaluation by whom? The instrument or methodology chosen is the answer to the question of how to evaluate.

As mentioned at the beginning of this chapter, in determining the purpose and focus of the evaluation to be conducted, one may regard evaluation as essentially a process of gathering information to serve as a basis for making certain judgments and decisions or predicting performance (e.g., in education, as a basis for modifying objectives, behaviors, or the learning activities). It is therefore necessary at the outsetto specify the judgments and decisions to be made and to describe the information needed to make them.

At some point one must also decide who will conduct the evaluation. Will it be a personal self-evaluation or an institutional self-study? If not, will outside observers be utilized, or will one's peers or superiors within the institution itself conduct the evaluation? Will several methods be used to evaluate a person or an organization? The purpose of the evaluation will determine the appropriate answers to these questions.

The concepts of reliability and validity are relevant here. Briefly, reliability refers to the consistency and accuracy of a measure. Validity refers to the degree to which measurement results actually measure what is intended. The reliability and validity of both self-evaluation and peer evaluation are open to question, and as a consequence these techniques may not have been used as often as they might. The controversiality results in part from the fact that these are not traditionally used evaluation techniques. Certain considerations are unique to each of these two modes of evaluation, which are considered individually in the following pages. The reader is alerted to Appendix E, "Evaluation Examples," which is designed to illustrate a variety of items from evaluation instruments and approaches discussed here and later in this chapter. Some examples indicate good features and others display less desirable characteristics.

Self-Evaluation

People involved in evaluating others are becoming increasingly aware of the value of involving the individual being evaluated in some type of formal self-evaluation. Self-evaluation encourages one to take responsibility for the quality of one's own performance. Self-evaluation can furnish one with greater insight into one's own problems and provide a definite basis upon which to structure broad goals and specific objectives. An attitude of wanting to find out how one can be more effective greatly facilitates behavioral change. The process can be effective with students as well as with members of the clinical faculty.

The evaluations of others become more valuable when they function as input into the self-evaluation process. Comparison of self-ratings with ratings by others can clarify what an individual does not know about how he or she "comes across." (057) This type of comparison can also give the individual being evaluated a chance to estimate the validity and reliability of the data collected and to state an opinion on planning future activities for him or her on the basis of the evaluation results. (245) Any wide variation between self-ratings and ratings by others certainly indicates a need to reexamine the situation. The same device might possibly be used for self-evaluation and for peer or supervisory evaluation of a person. The same device is less likely to be appropriate for both self-evaluation and peer evaluation of an organization or program.

Self-evaluation has been assuming importance in the business world in recent years as an essential ingredient of the management-by-objectives approach to appraisal--one method for self-evaluation. Objectives are set jointly by superior and subordinate, and the method to be used for determining whether or not objectives have been attained is spelled out in advance, thus providing a basis for future appraisal conferences. A study of managers and subordinates in business has indicated that if the subordinate brings written or verbal appraisal of his/her performance to the manager for discussion, rather than waiting to be called in for a discussion of a manager-prepared appraisal, the appraisal interviews are more satisfactory, the subordinate is less defensive, and greater improvement of on-the-job performance results. (034) The employee has been forced to think systematically about his/her job and performance, differences of opinion about job requirements and job performance have been clarified, and the upward flow of information has resulted. This method appears most appropriate for members of the clinical faculty and can be utilized with students on a unit or term basis.

The process of self-evaluation is particularly important in the education of professionals. Self-evaluation should be a lifelong habit in a professional; surely it is appropriate to encourage and teach this habit as part of the educational experience of professionals. A professional person is expected to be able to judge one's own performance and to take responsibility for being informed and up-to-date. The individual must also take the responsibility for getting the continuing education necessary to remain so. The formal and rigid nature of evaluation as typically practiced in most educational settings has little relevance to everyday life; self-evaluation can help to bridge the gap between education and the real world, and help to eliminate some of the competitiveness associated with most grading practices. (174) The physical therapy student in the clinical setting should be helped to determine his/her own degree of competence and to recognize his/her own assets and liabilities; the student should also be involved in developing plans to develop strengths and to minimize weaknesses.

Self-evaluation, though rewarding, is difficult. It assumes a very high degree of objectivity and maturity on the part of the individual and some people are not capable of this. (197, 061) Certainly the educational experience of most people has, if anything, crippled their ability to evaluate themselves. But perhaps the fact that many people are not capable of meaningful self-evaluation indicates an even greater need to encourage its use. Some researchers have found that self-ratings are too high on desirable traits and too low on undesirable traits. (099) But it also must be kept in mind that social conditioning to be modest may cause superior individuals to underestimate themselves. Distortedly favorable self-evaluations probably result most frequently from a felt need for self-defense or self-enhancement. If the person reviewing the self-evaluation is accepting toward an individual no matter what his self-evaluation reveals, distortions should gradually be reduced. (194) In the midst of whatever difficulties present themselves, it is also important to remember that self-evaluation, though difficult, is rewarding. Understanding of self is one of the most important and operational insights to be obtained from any experience. (174)

The concept of self-evaluation may be and has been extended to an organizational level, where the term often used to describe it is "institutional self-study." The purpose of this type of self-evaluation is to give the people within the institution a common understanding of the institution which they can use to identify and chart new directions, eliminate problems, and preserve strengths. (214)

Self-studies are the mechanisms utilized in the accreditation process for institutions of higher education, and self-evaluation guides and methodologies are utilized in surveying physical therapy educational programs. Appendix B, "Standards for a Clinical Education Site in Physical Therapy," includes guidelines for applying the standards. One use recommended by the Project is self-evaluation by a clinical center.

Peer Evaluation

The formal use of peers to observe the performance of their colleagues has, like the use of self-evaluation, been increasingly widely implemented in recent years. The concept of peer evaluation has been broadened by some to include any review of a person's performance by a peer group--e.g., professional standards review organizations (PSROs), medical record auditing, and the like. Some of these types of review are discussed later in this chapter under the heading "Other Evaluation Methods," pages 6-23 - 6-27.

Peers are advantageously situated for the observation of some types of behavior, and peer evaluation can be appropriate for gathering data about social acceptance, interpersonal relations, personal characteristics (e.g., discretion, sincerity, or courtesy), and habits observed in on-the-job behavior. (154) The advantage of peers as evaluators lies partly in proximity; peers may be able to observe a larger sample of behavior in the ordinary course of events than a superior or an outside evaluator. Another advantage is that a person's behavior may be less restrained and less calculated to give "the right impression" in the presence of one's peers, which may be the reason that many people are reluctant to evaluate their peers and feel that such evaluation is unfair. These feelings must be taken into account in designing any peer-evaluation device; they may be at least partly overcome by asking only for positive feedback (e.g., nominations for outstanding qualities). Helfer concludes that peers are capable of evaluating certain aspects of their colleagues' performance in a reliable and valid manner, particularly in the area of interpersonal relationships--an area difficult but not impossible to measure by other means including performance evaluation. (103) However, peers must be asked to rate only colleagues whom they know reasonably well on performances they have actually had an opportunity to observe.

Evaluation by Superior

The more classic system of evaluation is for supervisors or superiors to evaluate a person's performance. The process by which the classroom instructor evaluates students has received considerable attention. Physical therapy students have long been evaluated primarily by their clinical instructors (CIs) and other faculty members. Much time and attention has been devoted to developing measurement techniques for evaluation of the students by the clinical faculty. Informal components of the self-evaluation process have been involved in the methodology most often used (e.g., when the student is asked, "How do you think you are doing?"), but little structure has been given to that aspect of the evaluation process.

Systems for evaluating the clinical faculty members and the student or other individuals might wisely have several components--self, peer, and superior.

Sources of Error

If important decisions are going to be based on evaluation results, the evaluator obviously needs to be concerned with whether or not the measures obtained in the course of evaluation are "true" measures, and with whether or not the information gathered through the process of evaluation is valid. This is an extremely important preliminary consideration in evaluation planning. A certain amount of error is inevitable in any evaluation effort, but it is important to be able to estimate the amount of error involved, so that judgments can be tempered accordingly and decision-making improved, and to do everything possible to reduce error. Evaluation results are only as good as the instrument which produced them, and a good one must possess an appreciable degree of validity, reliability, and practicality. What follows is a discussion of some of the methodological problems involved in achieving these qualities, with particular reference to the area of performance evaluation based on observation, the type of evaluation of the individual (e.g., faculty member or student) which is perhaps the most pertinent to clinical education. Issues such as sampling, the use of context and inference by observers, and observer error are considered.

Validity, as briefly defined earlier, is the extent to which the measures obtained by an instrument actually describe what they are supposed to describe. Reliability refers to the consistency of the instrument as a measuring device, its tendency to obtain the same results from similar events. The higher the reliability of an instrument, the less the variation in scores due to chance factors or observer error. Reliability may actually be considered an aspect of validity, for an instrument cannot be any more valid than it is reliable. Reliability without validity, however, is useless, for evaluation results may be consistently misleading and still be considered reliable. Results must be valid to be genuinely useful. Even practicality assumes some of its importance from the fact that low practicality may make the correct administration of an instrument unlikely and thus lower its validity.

Validity may be difficult to ascertain in some cases, but intelligent attention to matters known to affect validity is always possible, and its overriding importance dictates that it be the primary consideration in any evaluation program. The validity of an observation instrument is affected by the observability of the behaviors being evaluated, the objectivity of the instrument (and related problems of inference, context, and observer effect), the representativeness of instrument items of the behaviors under study, the clarity and specificity with which the instrument items are stated, and the adequacy of the criteria of proficiency used.

However, the validity and reliability of the results obtained through evaluation based on observation are a function not only of the design of the evaluation instrument, but also of the evaluative competency of the observer. In one sense, the observer actually is the evaluation instrument in performance evaluation; the rating form or any like device which is used to record observations does not itself evaluate, but only serves to focus observation and structure information. (154)

The most obvious source of observer error in performance evaluation is variability of skill in evaluation among observers. There is a tendency in education to assume implicitly that a teacher, as an expert in the field, knows good from poor performance, but such is not necessarily the case; some faculty members and administrators cannot even distinguish performance from personality. Levels of experience with and sophistication about evaluation vary, as can the extent and nature of training in observation and evaluation. Also, the validity of clinical performance measures may sometimes depend upon the clinical competence of the observer. An inexperienced observer may miss the critical details of a physical examination procedure and make judgments on a global observation ("things are going well") rather than the specific behaviors the student exhibits ("the hands are well placed").

Observers also vary in their willingness to evaluate. There is a certain amount of reluctance to sit in judgment on others in everyone, and passage of the Buckley Amendment (Federal Disclosure Law) probably has increased this reluctance. Willingness to make the effort necessary to ensure valid and reliable results is also a function of the time which the evaluator can take from other duties in some cases. Practicality of the observation instrument becomes an important consideration in those circumstances. If the evaluator does not understand the need for and importance of evaluation, motivation will also be affected negatively.

Even the skillful and willing evaluator is only human and is inevitably subject to a certain amount of influence due to extrinsic factors that have nothing to do with what is being measured. (154) Extrinsic factors include the amount and nature of previous information which the evaluator has about the individual being evaluated, the emotional and physical well-being of the evaluator, and observer preferences, expectations, needs, feelings, and biases. Though such factors are an inevitable source of error in evaluation, the degree of influence which they exert can and should be controlled.

Rating scales are susceptible to certain types of bias generally referred to as types of rater error, which may be grouped in categories. First is error of leniency; raters tend to be more lenient in rating persons they know well, or they may go to great lengths to avoid leniency, which also distorts the rating. Second is error of central tendency which refers to the tendency of raters to avoid the extremes in any rating situation. This adversely affects any attempt to differentiate among the individuals being rated and provides less meaningful data for guidance.

Then there is halo effect, which forces the rating of any trait in the direction of the general impression the rater has of the individual being rated. For instance, a student who is academically adept and consistently gets high grades may automatically get high grades in clinical education even though the actual performance may not deserve the high rating. The fourth source of error is logical error. Because some traits are logically quite similar to others, the rater may rate them similarly, not making the necessary distinctions between traits. Contrast error refers to the tendency of the rater to read into the behavior of someone being rated signs that they are at opposite ends of the continuum of the trait being judged. Finally, there is proximity error, the tendency of the rater to rate item 2 at the same point of the scale at which he/she rated item 1, item 3 at the same point as item 2 and so on. (099)

Evaluators can be educated to be alert for unaware bias in their evaluation, but training alone will not eliminate observer error. Instrument design is of major importance in the reduction of observer error. This leads us back to a consideration of the instrument as a source of error. What follows is a discussion of instrument validity, derived almost entirely from an article by Herbert and Attridge. (105)

Instrument objectivity is a function of "the extent to which the instrument lends itself to change by the observer on the basis of his own preferences, expectations, needs, feelings, and biases," and of the extent to which the instrument may cause the observed subjects to change (observation effect or measurement interference effect). Three general types of problems affect objectivity: problems of inference, context, and observer effect.

Observer inference may be defined as "the degree of observer judgment intervening between actual data observed and the subsequent recording of that data on observational instruments." Ideally, any inference about or interpretation of data should take place after recording, not before. All observation involves judgment, but instruments differ in the amount of inference which they require. High-inference items offer potential for distortion. For example, a rater may gravely distort an item called "professional judgment," but an item on"progresses patient's treatment appropriately" offers less chance for distortion. A high degree of inference is required if the characteristics one is asked to observe are global or nebulous, if categories are poorly constructed or poorly defined, if the observer is asked to evaluate more than one specific event or behavior at one time or in one item, or if terms are not clearly and consistently defined. However, the use of only low-inference items in complex behavior situations may also result in distortion, in part through their selectivity. If inferences are made later by someone not present at the time that the behavior occurred, a further opportunity for distortion occurs; all relevant aspects of the situation may not be taken into account in making these inferences.

This brings us to the problem of context, the surroundings in which the behavior being observed takes place. This includes every aspect of the environment, whether physical or social, and behavioral and temporal context as well; ventilation, light, noise, interruptions, and confusion are examples of context. The amount of context which observers take into consideration in recording any behavior can vary from observer to observer and thus introduce error. Yet context cannot be ignored when observing complex behaviors. For instance, a student should not be rated on ability to develop a treatment program on a day the patient load doubles. The context (unusual patient load) must also be considered. The necessity of considering context increases if an instrument requires a high degree of inference. To completely neglect context would imply that the setting does not influence behavior, and this is probably an untenable assumption, and more so in a clinical setting than an academic setting.

Observer effect is a special case of the problem of context: when the observer and any personnel, procedures, and equipment involved in the evaluation process are a part of the context in which behavior occurs, the behavior may be affected by these presences. The student may act quite differently when the CI is close at hand than when the student is treating the patient alone. It can be difficult to determine the extent and nature of this effect. It has been claimed that observer effect, if it exists, wears off over time, but little empirical evidence exists as to when this does and does not occur.

Representativeness is another validity issue. One must consider whether or not the instrument items are representative of the behaviors under study (a sampling issue), as well as the likelihood that the behavior observed is representative of the behavior under study. Is it normal behavior? It may, for example, have been influenced by context to an unusual degree. If an instrument lacks representativeness, the generalizations made from the results it produces will not be meaningful. Kelly claims that the validity of ratings is heavily dependent on the appropriateness of the behavior sample used as a basis for judgment. (123)

The validity of an observation instrument is also a function of the degree of observability of the behaviors included in the instrument (whether those behaviors are capable of being perceived by any trained observer).

Reliability, as previously noted, is usually defined as consistency. The reliability of an instrument refers to the reproducibility of the results obtained with it. Herbert and Attridge point out that reliability is actually a property of measures obtained, not of the instrument itself or of the observers. Qualities of the instrument, procedures, and qualities of the observer all constrain the reliability of these measures; e.g., even an instrument which has been demonstrated in the past to produce reliable measures may not do so in the future if it is used by untrained or inept evaluators.

Interobserver agreement (the extent to which two or more observers observing and evaluating the same behavior at the same time come up with the same results) is the most common way of determining reliability reported by researchers in observation. A measure of interobserver agreement is very useful, but it is important to remember that interobserver agreement in itself will not ensure reliable evaluation results--whether or not two observers agree today will not predict whether the results obtained by either of them will be reproduced tomorrow. In the evaluation of clinical performance, interpatient variance has been found to contribute to interexaminer variability. (143)

The validity and the reliability of an evaluation instrument should be tested. There is little evidence that devices utilized in clinical education have been subjected to these tests. Descriptions of the methods of obtaining measures of the reliability of an evaluation instrument are available in most standard textbooks dealing with statistics or psychometrics. (022)

Only a few brief remarks on types of validity and validation procedures are included here. Content validity refers to the degree to which the items of the instrument sample the behaviors about which conclusions are to be drawn (representativeness). We can hardly assess the student's competence in nonverbal communication by counting the number of times the student smiles while demonstrating an activity for the patient. Appropriate judges (experts) can be used to assess the content of the instrument as a validation procedure.

Construct validity refers to the degree to which the theoretical claims and supports of the instrument can be substantiated logically and empirically. Take equivalency examinations, for example. Does a passing grade on a challenge examination indeed mean that the student has the same competence as another student who took the course and passed? A validation procedure would be to determine whether or not generalizations based on the data will hold up.

Criterion-related validity refers to scores on the instrument in relation to an established criterion. One should be able to defend one's choice of a criterion. Criterion-related validity may be either concurrent or predictive. One primitive way of determining concurrent criterion-related validity would be to compare the instrument's findings with the opinion of one or more observers assessing the same behaviors without the benefit of an instrument. Comparison with an already validated evaluation instrument measuring similar behaviors would be highly desirable, but such instruments are not usually available in physical therapy education. A validation procedure for predictive criterion-related validity would use some measure of future performance as the criterion.

Face validity is described as the degree to which an instrument appears to measure what it is supposed to measure. The developer of the evaluation instrument, colleagues, and users of the instrument must apply their intelligence, intuition, and reason to determine its face validity. In some fields, the face validity of an instrument is considered desirable for public relations purposes, but not otherwise important. Face validity is considered by others to be an acceptable kind of validity for an instrument to have, but it is not so designated by the American Psychological Association. (022)

If an evaluation instrument lacks practicality, this can pose difficulties for the evaluator, and results may be affected as a consequence. The ease with which an instrument may be administered and the ease with which a system of evaluation may be implemented are examples of practicality. The cost of developing and administering the instrument and the amount of training required to use it are other practical considerations. Length of the instrument can affect ease of administration: if the evaluation instrument is too long it will not be practical. One must not forget, however, that if it is too short it may not be reliable. Also a short instrument may not be valid in that behaviors may not be adequately sampled.

This concludes the presentation of basic considerations in starting the evaluation process. Some of the questions to be asked and answered early in the planning stage and again in the replanning stage, have been suggested. A brief review of "evaluation by whom" has introduced some evaluation methodology, and some caveats in developing reliable and valid evaluation have been set forth. The following section takes a closer look at evaluation methods appropriate in physical therapy education.

A CLOSER LOOK AT EVALUATION METHODS

The following discussion of evaluation methods opens with some guidelines for designing instruments. Criteria and standards are discussed, as well as scale construction, item selection, and the development of instructions to the evaluator. Then some of the various methods of collecting evidence are described, with comments on the advantages and disadvantages of each.

Although performance evaluation methodology is emphasized, this should not be interpreted to mean that evaluation in clinical education is restricted to the performance of individuals. Whatever the methodology, an evaluation program should include assessment of the clinical education site, the learning experiences, and the curriculum. Furthermore, other focal points for evaluation are relevant, health services for example. Clinical education occurs at the interface of education and service, so such matters as quality of patient care are of considerable practical interest. It is beyond the scope of the Project on Clinical Education to cover evaluation for purposes other than education, but it should not be forgotten that existing evaluation results for other principal purposes may be very useful to those concerned with clinical education decision-making in physical therapy.

Steps in Instrument Development

As the foregoing discussion of inconsistencies and difficulties in evaluation has indicated, the effort to achieve valid evaluation results has two major components: (a) proper instrument design (including instructions to the evaluator) and (b) rater training. What follows here is an outline of the steps involved in developing an instrument and some guidelines for development which should help to ensure its validity.

The construction of a good evaluation instrument is a fairly difficult undertaking, and someone knowledgable about and well trained in the area of evaluation should be involved in the process of construction, at least in the role of a consultant. Some benefits have been found to derive from the involvement in its development of those who will use the instrument, and even those who will be evaluated by it. (017) Development of one's own evaluation device as a group effort has been found to improve attitudes toward evaluation, to serve as a learning experience, and to lessen resistance to a new system of evaluation. (046) The process of developing criteria, in particular, may make subsequent evaluation easier by requiring evaluators to think clearly about what they are looking for. In developing a device, one need not act in a vacuum, nor is it necessary to reinvent the wheel. /Consultation can be sought, and it may be possible to combine efforts with others who require a similar evaluation instrument.

Before proceeding with the actual construction of an evaluation instrument, it is necessary to define the intended purpose and focus of the instrument in some detail. An evaluation instrument is designed to achieve certain ends, and these should be made explicit in a written statement of purpose. The determination of focus is a somewhat more complex undertaking. The word "focus," as used here, is broad and includes: (a) subject focus--who or what will be evaluated, and in what aspects; (b) behavior focus--whether the instrument will look at the cognitive, the affective, or the psychomotor domain, or all three, or at verbal or nonverbal behavior, and whether the evaluation will be based on an analysis of behavior itself or on the effects, results, or outcomes of behavior; and (c) substantive or content focus--whether the instrument is to evaluate technique, knowledge of theory demonstrated in patient care, or something else. *(105)* Whatever the focus is acknowledged to be, it too should be in writing.

In education, the aim or purpose of many evaluation instruments is to determine whether or not certain objectives have been achieved; these objectives must be specified. Then the developer of the instrument must decide what criteria will be used to determine whether or not the objectives have actually been achieved. Criteria are accepted indications of desired behavioral changes which indicate achievement; criteria are the salient features against which success can be judged. *(017)* Stating criteria involves describing the behavior that distinguishes the individual who has achieved the objective from the individual who has not. *(068)* The focus of an instrument will be dictated in part by the nature of the objectives whose attainment is being ascertained and in part by the types of criteria which are to be used.

In performance evaluation, determining the focus of the evaluation instrument consists of deciding what dimensions of performance to include, and criteria are determined by defining good and bad performance along each dimension. Each category of performance must also be assigned a weight, just as criteria must be ranked, for all are not of equal importance. *(017)* The developer of an instrument for evaluating performance must somehow arrive at a definition of effective performance. In clinical education, this may necessitate documenting what professionals actually do, or which of their duties are perceived as important. Documentation may be accomplished by surveys (e.g., the critical incident technique), observations (e.g., job analyses based on activity diaries or the reports of trained observers), or correlational research (e.g., using teacher behaviors which have been shown to correlate with student achievement to define effective teaching). *(152)* This produces definitions of effective performance which are either normative (based on the opinions of professionals) or empirical (derived from practice). *(032)*

The critical incident technique is a commonly used method for generating lists of discrete behaviors which have been identified as critical elements of job performance (elements crucial to success). These behaviors have been isolated from anecdotes relating incidents in which particularly effective or particularly ineffective behavior has been exhibited; these behaviors are in turn used to compile profiles of the effective and the ineffective individual. Barro recommends the use of the critical incident technique both to determine which dimensions of performance to include in an instrument, and to define good and bad performance. (032) McDaniel has used the critical incident technique to develop a profile of the ideal physical therapist. (148)

Less formal attempts to define good and bad performance may involve having professionals write essays describing the best and worst practitioners of the profession they ever knew; a list of characteristics of good and poor professionals can be extracted from these. (060) Essays on good and average performers can be culled for items describing observable behavior; experts can then select an individual whom they feel to be outstanding and an individual whose performance is generally unsatisfactory, and rate each of these individuals on each behavior to see which items differentiate them. (017)

Another approach is to have an expert logically analyze his knowledge of the field, breaking down complex skills into component behaviors. A group judged proficient can be compared with a group judged not proficient to see which behaviors differentiate performance of the skill. (020)

After effective performance and ineffective performance have been defined, performance standards or statements of competency must be specified. These should indicate how well, how much, in what time, and/or in what manner the individual being evaluated is expected to perform his assigned tasks. Task analysis may be of benefit in setting performance standards. It involves identifying the task, identifying any objects involved in performing the task (e.g., part of the patient's body), specifying the basis for initiating action, describing any equipment necessary for performing the task, describing step-by-step the action to be taken, and describing the final outcome expected. One should focus on important regular and routine tasks, writing down what the student should or should not do in order to convince someone that he has performed the task satisfactorily. This will produce quantity, quality, time, and method standards. These standards should be specific, descriptive, and applicable to the task. (145, 088, 139, 077)

One should also specify what constitutes an acceptable level of performance or level of competency. Minimal levels of performance should be specified before establishing the criteria for outstanding behavior. It should be kept in mind that a level of performance which is acceptable for a student may not be acceptable for an experienced physical therapist. Assigning scores to different levels of performance should require as little judgment as possible. (017, 145)

In determining the criteria or standards for effective performance, keep in mind that for maximum validity, the standards for performance (clinical performance in particular) should be demonstrably related to the results or effects of performance (e.g., the outcome of patient care). (032) Dress and appearance, for example, may not be related to a clinician's ability to provide effective patient care, and should perhaps be excluded from any instrument for evaluating clinical performance. Whenever standards are normative (as are the opinions of professionals), it is always possible that what is perceived as important in any definition of effective practice may be culturally determined or specific to that particular time and place. (154)

The accusation has been made that performance evaluation in clinical education does not measure anything; evaluators are only judging whether the student is fit to "join the club" of professional practitioners. *(143)* Performance evaluation of students or clinical faculty can cover the cognitive, psychomotor, and affective domains, although suitable items may be more difficult to formulate in the affective areas.

When the vital skill and content areas of one's objectives have been determined, the next step is to construct items that cover these areas. Each item may be a behavioral statement depicting competent performance. All of the terms which designate items of behaviors to be observed must be as clearly and unambiguously defined as the behaviors under study will permit. The items comprising an instrument must be both exhaustive of and representative of the dimensions of behavior under study. Exhaustiveness means that there is a category into which every behavior of the kind under study can be classified; exhaustiveness is often accomplished by means of an "other" category. (The inclusion of such a category, however, creates a danger that it will be used too often for behaviors which should be more specifically identified.) Representativeness governs the sampling from the total population of behaviors under study, such as those previously identified under curriculum objectives. (Do the items adequately represent the total universe of behaviors which comprise the performance being assessed, as in the area of communications or administration, or just a few of the roles or functions covered?) *(105)*

Items constituting an instrument should also be mutually exclusive. Each item should be measured on only one dimension, if possible. One item cannot usually measure both the frequency and the quality of a behavior--a student may do something often and well and one item should not rate both aspects of the behavior. Instrument items must be as low in the degree of observer inference required as the complexity of behavior under study will permit. They should not call for the observation or evaluation of global characteristics. The behaviors to be observed should be discrete, clearly specified units of behavior, and should be clearly defined. A student should not be judged on "attitude," but on such specifics as "response to suggestions," "voiced concern for patient," and "willingness to spend extra time." Above all, items constituting an instrument should be relevant to its purposes. *(105, 154, 152)*

Rating scale items may consist of traits to be rated. A trait to be rated should not be a composite of a number of traits that vary independently--each trait should refer to a single activity or the results of a single activity. Traits should be grouped according to the accuracy with which they can be rated. In describing traits, one should avoid the use of general terms like "very," "extreme," "average," or"excellent." Traits should be judged on the basis of past or present accomplishments, not future promise. *(099)*

Traits should be stated with as much specificity of detail as possible; for example, it is easier to rate "thoroughness of record-keeping" than just "thoroughness." The rater should be asked to describe behavior, not to judge it. A rater should not be asked to rate someone as "outstanding" without a clear definition of what constitutes outstanding behavior. Neither should a rater be asked to say whether the individual being rated is better or worse than most. The individual should be rated on his/her own performance according to criteria and not compared with others as in norm rating evaluation. If a rating scale is categorical (not a continuum), the options should represent all the possibilities. Rating cagegories should be identified by descriptive phrases rather than by numbers or verbally evaluative phrases; i.e., rating choices should be labeled "highest possible" to "lowest possible," not "excellent" or "poor." (154) Descriptions of behavior rather than adjectives should be used as scale anchors. (046) If an item consists of a description of an element of competent performance, the rating choices may be the rareness or the consistency with which this behavior is shown.

In deciding how many steps or rating categories to use in a rating scale, the following considerations apply: if one chooses too few steps, the scale will be coarse, and the discriminative power of the rater will not be fully reflected in the results; if one chooses too many steps, the results may invalidly imply that the discriminative power of the rater is greater than is actually the case. Generally speaking, if the rater who is going to use the scale is motivated, willing, and cooperative, it is permissible to use a greater number of steps than if he/she is not. But the question of how many rating or scoring categories to use is a controversial one. Conklin has concluded that for untrained raters the maximum number of steps should be five in a unipolar scale. Symonds has concluded that seven steps is optimal for achieving reliability. But Champney and Marshall claim that when a rater is trained and interested, one can use up to 21 steps. There are no hard and fast rules in this area; one must be guided by common sense as much as anything. Since the population of raters in physical therapy clinical education may change from time to time, the five or seven steps may be most appropriate. (099)

To be good, cues for rating scales should be clear (short and unambiguous), relevant (consistent with the trait being measured and not implying any other trait), unique to the trait being rated (as terms like "excellent," "superior," and "average" clearly are not), objective (without implications of such ethical, moral, or social evaluation as goodness, worthiness, desirability), and precise (localized to a short range of the continuum). (099)

Certain features of rating scale design can be manipulated to reduce the kinds of rater error discussed earlier in this chapter. Arranging all the options so that all or almost all of the ratings are positive, thus making it easier for the rater to select some option other than the extreme positive will combat error of leniency, as will the use of descriptive terms or specific criteria to minimize the amount of judgment a rater has to make. To correct for error of central tendency, use phrases and words to describe the rating options which leave wider distances between adjacent options toward the extremes; i.e., ask the rater to make close distinctions at the center of the scale so he/she can select away from the very center. It is also advisable to place the options toward the center of the scale further apart physically. If each page of a rating scale contains questions about one trait only, this should help to reduce halo effect. Likewise, physically separating items on the scale which are logically similar should reduce logical error. (099)

Once an evaluation instrument has taken final form, the next step is to develop instructions to the evaluator, which should be placed in the manual or introduction to the instrument. These should specify ground rules for the implementation of the instrument in general, and for the categorization of borderline or unusual behaviors. Specific guidelines are needed to produce consistency among observers. The nature and degree of observer inference required by the instrument must be explained, and methods of reducing and/or controlling observer inference should be offered. Rater training may be necessary to ensure consistent observer use of inference; if so, training methods should be outlined. Instructions to observers to ensure their similar use of contextual information should also be provided. (105)

A word about rater training is relevant here. There is evidence that interrater reliability (interobserver agreement) can be increased by rater training, though training does not always increase reliability. (123) A study conducted by Barbee involving three trained raters and one untrained rater, all of whom rated the same videotaped performance at least once, showed that significant interrater agreement was achieved by the trained raters, but that there was little agreement between the untrained rater and any of the other three. However, when some of the taped performances were rerated six months later, only two of the trained raters were able to duplicate their previous ratings with a high degree of correlation. Thus Barbee recommends not only training, but also periodic retraining of raters. Rater training should educate and inform the rater about sound principles of evaluation, explain the instrument to be used, and familiarize the rater with the instrument, providing some practice in using it if possible. (029) Herzberg found that collecting critical incidents served in itself to increase people's understanding of the principles of performance evaluation, and thus provided informal rater training of a sort. (106, 022)

In addition to the instructions to the rater, the manual-type material for any evaluation instrument should, of course, contain a clear statement of purpose, including a statement of the applications for which the instrument is intended and some specification of situations in which the instrument should not be used. (022) Guidelines as to the kinds of inferences that can and should be made from the data obtained from the instrument, a description of permissible inferences, should also be included to reduce unwarranted conclusions and unrealistic applications of findings. In addition, "The types of reliability assessed, their meaning, and the conditions under which they were determined, must be reported," as must "the methods employed to test its validity, the results obtained, and the purpose for which these results apply." (105) The practicality of the instrument as determined by pretesting should also be reported, and as mentioned above, training procedures for evaluators should accompany the instrument. (022)

Format of Instruments

The literature on performance evaluation appears in general agreement that the more structure an instrument provides for making observations, the better it is likely to be. But the methods of measurement that inspire the most confidence are very expensive and time-consuming, and a number of other considerations are involved in deciding which methods to use in conducting an evaluation. What follows is a description of some of the alternatives available, with a brief discussion of some of the advantages and/or disadvantages of each. The general types of methods used for recording direct observations of clinical performance are narrative reports, anecdotal records, rating scales, and interpersonal process analyses; Q-sort is also used for this purpose, but only infrequently.

Narrative Reports

Narrative report is the method of performance evaluation which provides least structure for recording observations, thereby requiring the greatest amount of observer inference, which greatly diminishes the objectivity of an evaluation. The criteria to be used in making the evaluation are often not made explicit when this type of method is used, and criteria may vary greatly from one observer to another, decreasing the reliability of the evaluation thus obtained. But the main hazard of unstructured observation is that collection of data may not be separated from judgment of data. Narrative reports tend to be interpreted as an invitation to make global judgments, and observer biases frequently have a field day with them. Narrative reports usually have the further disadvantage of not focusing the evaluator's observation on particular skills or behaviors, and observation is likely to be less efficient when not focused. Narrative report is frequently a component of a more structured instrument in the form of space for "additional comments" on performance, and does have value as such.

Anecdotal Records

Anecdotal records are factual reports of significant incidents in the performance of the individual being evaluated. Anecdotal records should describe exactly what happened and in what setting; they should be dated; and they should be recorded immediately after observation. Value judgments and interpretations should be avoided, or at least separated from straight description, and the words used to describe what happened should be unambiguous. (154)

The anecdote should include a verbatim report of any conversation which took place, and it should specify exactly what the evidence is that the incident took place if it was not observed directly. Someone who does not know the individual being evaluated should be able to make a fairly good judgment of his/her competence on the basis of a properly completed anecdotal record. Anecdotal records should be kept on positive events just as frequently as on negative ones. (020)

Critical incidents, referred to several times earlier, are highly structured anecdotes. The critical incident technique is defined by its creator, Flanagan, as "a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems." The technique "outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria." (089)

A critical incident is something someone does or fails to do which results in failure or success in a particular part of his job; to be critical, an incident must have been observed and must clearly show either outstanding or less than satisfactory performance, rather than typical performance. The report of a critical incident should include a description of the consequences of the behavior reported. (106)

Focusing on critical incidents bases the evaluation process on systematic observations rather than on general impressions, requiring the evaluator to ask "what does he do," rather than "what is he like." The requirement to think in terms of specific events works against the tendency to rely on vague generalities in assessing performance. Those who use the critical incident technique become aware of the need for evaluation to be a continuous process, with final assessment based on an accumulative record rather than on a general impression, the details of which have been forgotten. Intrusion of the halo effect, defined earlier, becomes clear to evaluators when they are forced to consider each incident as just a sample of behavior. The requirement that the evaluator present only specific incidents of a person's behavior and not a description of his personality traits eliminates much confusion and the nonvalid contamination of superficial personality impressions. The absence of judging diminishes the natural reluctance to assess other people; it is a relief merely to describe what someone did. Critical incidents provide a concrete basis for discussion during an evaluation interview. (073) The use of critical incidents in critiqueing performance can help to reduce defensiveness on the part of the person being evaluated by making it clear that he/she is not being attacked as an individual; only the behavior is being evaluated. (106)

Obviously, to obtain a representative sample of behavior using anecdotes as the sole source of data on which the evaluation is to be based will require the compilation of a record of a very large number of anecdotes. This is not only extremely time-consuming, it produces bulky records, and a lot of effort must go into record-keeping. Good anecdotal records require great competence on the part of the observer. Another disadvantage is that the stimulus situation in which the anecdotes are collected will vary greatly, requiring some individuals to display behaviors which others may never be called upon to display. Unfair comparisons may result. This is particularly true in a clinical setting.

The advantages of anecdotal records are that they are highly naturalistic and can be used in very unstructured situations. They can reveal subtle characteristics of an individual which may elude other methods of gathering evidence of skill. They can be useful in revealing development of professional attitudes, ethics, readiness to assume responsibility, and attitudes toward colleagues, patients, and patient care. (020)

Palmer used anecdotal records to aid in self-evaluation on the part of students, periodically asking students to write anecdotes on various aspects of their own clinical performance (e.g., reactions to having carried out some patient-care measure, self-evaluative comments on the performance of a procedure, reflective thoughts on interaction with a patient, analysis of a problem, or statements of personal feeling); this was found to be beneficial in a number of ways. (174)

Though anecdotes may be inadequate as an exclusive method of appraisal, the collection of anecdotes as supplementary evidence of the quality of performance is highly desirable.

Rating Scales

There are several types of rating scales, as briefly described in this section, which is based on Guilford except where otherwise noted. *(099)*

The simplest type of rating scale is the checklist, not usually referred to as a rating scale at all; it may be thought of as a two-point scale: the behavior either did or did not occur. Checklists are a variety of "cumulated points rating scale," the unique feature of which is the method of scoring. One's score on a checklist is the sum or average of a number of points, weighted or unweighted. A checklist is a collection of words, phrases, sentences, or paragraphs describing specific behaviors to be checked while observing performance. The purpose of a checklist is to determine if the individual being evaluated exhibits particular behaviors. Checklists are convenient for evaluating performance of personnel when a job is a complex activity involving a large number of minor objectives or routine operations that can be checked separately. If checklists are based on actual observation rather than on memory or general impressions, and if success or failure is readily distinguishable, this is a testing procedure rather than a rating procedure.

The chief advantage of checklists is simplicity of administration. Checklists require a minimum of quantitative discrimination on the part of the rater. Scoring is also easy. One problem, however, is that if one asks the rater only to check the items that apply, one is wide open to response biases. It is much better to require the rater to make a response to every item, checking "yes," "no," or "don't know" (a category to be used very sparingly). There is also the danger that important behaviors may be omitted from the list by those compiling it; on the other hand, attempting to cover the field completely may make the list impracticably lengthy. *(020)* Another limitation is that checklists do not tell the degree to which a student possesses a skill. Checklists are probably best used as a component of a device rather than as the only method of evaluation.

Other types of rating scales are designed to tell to what degree the skill being rated is possessed. The general forms of four types are described in the following paragraphs.

Numerical scales supply a sequence of defined numbers to the observer, who then assigns to each stimulus an appropriate number in line with those definitions or descriptions. A numerical scale does not necessarily have to carry numbers; if a scale for rating weights ranges from "very heavy" through "medium" to "very light," it is considered a numerical scale whether numbers are added to it or not, but it probably helps to add numbers to increase the equality of the psychological intervals. The use of negative numbers is not recommended. Numerical scales are among the easiest to construct and to apply, and they are simplest in terms of handling results. Numerical scales are often rejected in favor of other types of scales because they are believed to be more vulnerable to biases and error, but if much attention is given to their construction, they are satisfactory in many situations.

Graphic scales display a straight line and combine it with various cues to aid the rater; the line may be segmented or continuous. Vertical rather than horizontal lines are recommended. Only one trait should be rated on a page, and ideally, every individual to be rated by that rater should be rated on one trait before the rater goes on to the next trait. (See Guilford (099) for a discussion of how long the line should be, whether or not it should have breaks or divisions, and which end should be the "good" end; also for some tips on cues.) The virtues of graphic scales are many; their faults are few. Such scales are simple, easily administered, interesting, quickly filled out, and do not bother the rater with numbers. Graphic scales provide an opportunity for as fine a discrimination as the rater is capable of making, and the fineness of scoring can be as great as desired. However, it would be difficult to determine how fine scoring could be and still remain valid.

Then there are standard scales; these present the rater with a set of standards which are more than ordinary cues. These are usually objects (or individuals) of the same kind as whatever (or whomever) is being rated, with preestablished scale values. The sample to be rated is compared with the samples on the scale and is equated with one sample or judged as falling between two samples on the scale. In performance evaluation, standard scales may be person-to-person scales, using as the standards individuals known to the raters. These are no longer in general use, but the Slater Nursing Competencies Rating Scale is of this general type, though with the Slater scale every rater is using a different standard. The Slater scale also somewhat resembles the portrait-matching technique, which presents verbal portraits of imaginary individuals possessing a trait. (233) Developing a scale of standards is a difficult task. It is hard to get a good set of objective standards that have wide applicability. Standard scales are often crude, and the distances between the standards on the scale may not be equal. Person-to-person scales are very bad, and portrait-matching lacks realistic standards. This type of scale is more suitable for rating samples of handwriting and the like than for evaluating complex components of performance such as are found in physical therapy.

Finally, there are forced-choice ratings; in this case the rater is not asked to say whether a ratee has a certain trait or how much of the trait, but the rater is asked to say whether the ratee has more of one trait than of another of a pair of traits. One of the members of the pair is valid for predicting some total quality and the other is not, both appearing about equally favorable or unfavorable to most people. Considerable research must be done to develop a device of this type, and each device must be constructed for a particular purpose in a particular population. Guilford has reservations about this technique. It has sometimes resulted in leptokurtic distribution of scores, i.e., poor discrimination in the central part of the range. This may be due to the fact that though the rater is judging traits within the individual, the score derived from this judgment is supposed to represent differences between individuals. It may also result from guessing on the part of the rater. Forced-choice rating scales originated in an effort to correct for leniency error, but it is not certain that forced choice does overcome bias. When instructed to make the ratee look good, raters are able to increase scores from one half to three fourths of one standard deviation. Forced-choice tends to be unpopular with raters, perhaps in part because of its name, which is somewhat misleading. All rating scales force the rater to choose; forced-choice simply forces him to choose without knowing how his choice will affect the favorableness of the final results of the evaluation.

Interpersonal Process Approaches

These approaches begin with the premise that a relationship exists between the roles that a health care practitioner assumes and his/her effectiveness. Communication skills are the key to these roles: the enlistment of patient cooperation in the therapeutic process and the provision of counseling require good communication skills. A number of systems are available for categorizing verbal interactions in order to assess quality of communication. Barro describes a group of studies which use Bales' Interaction Process Analysis to characterize verbal communication between patient and physician. (032) In one of these studies, Gozzi classified physician statements as facilitations or blocks according to whether they were related to preceding statements made by the patient; blocking was found to be correlated with patient satisfaction and patient compliance. Hess used interaction analysis to evaluate interviewer skill and found that it produces more reliable ratings than traditional systems which required more global judgments; interaction analysis was also more useful in providing corrective feedback to students. It allowed communication skills to be distinguished from interpersonal skills. (107)

Q-Sort Technique

Q-sort technique has a variety of uses, one of which is as a method of evidence collection based on direct observation. An observer watches a student demonstrate a certain skill. Upon completion of the performance, the rater is presented with a stack of cards, each one containing a statement describing some possible aspect of the student's performance. The rater then sorts these cards into piles according to the degree to which the performance of the student is described by the statement on the card. The rater is required to put a specified number of cards in each pile. The Q-sort is a very specialized technique, and should not be used unless one has special technical assistance. (077, 238, 120)

Other Evaluation Methods

There are a number of evaluation methods which ask the student to perform in a situation that simulates actual clinical conditions in at least a few respects. Some of these methods are used for diagnostic purposes and some to reduce the amount of actual clinical education experience. All attempt to standardize the situation or stimulus to which the student is responding while being evaluated. Some of these methods are: practical examinations, or performance tests; the use of filmed practitioner-patient interviews as a basis for paper-and-pencil tests; the use of simulated patients, such as hired actors; and patient management problems of various types. Other methods that do not involve observing an individual in the process of providing patient care in a real-life clinical situation can provide indirect evidence of competence. Some of these are: medical records, oral examinations, interviews, log-diaries, and attitude scales.

Simulations

Practical examinations (performance tests) require the individual being evaluated to perform certain specified tasks that are part of a job, but which for testing purposes, are being performed outside the actual job situation (or clinical situation). This type of test can be carefully structured to include certain critical job elements that might not be encountered in any given random sample of clinical or on-the-job performance; examiners can learn exactly what to look for in the performance of any given task. However, such practical examinations are not generally considered very useful in clinical education, because they sacrifice exactly those qualities of reality in the work situation which it is most crucial for the student to be able to handle. They are used more often as a preliminary to the clinical experience, to make a preliminary check of the student's mastery in a less risky situation than the actual clinical situation, or as a diagnostic evaluation device to assist in developing the appropriate objectives for a clinical assignment.

Objective tests based on films of patients being interviewed and examined by health care practitioners have also been used to evaluate students, who may be asked to diagnose a patient's problem, recommend treatment, or evaluate the performance of the practitioner in the film. Both Cline and Langsley have found that scores on these tests vary directly with the amount of clinical experience of the individual taking the test, which indicates that such tests probably do measure some component of clinical skill. (058, 132) The student's powers of observation are certainly called into play in such tests. (215, 130, 154, 072)

Simulated patients (hired actors) may also be used in the evaluation process. The use of simulated patients in an examination situation has the following advantages: one does not have to worry about violating a simulated patient's privacy when observing his care through a one-way window, or about upsetting him by having an observer present in the room during his care; the examinee does not have to worry about causing undue stress on a sick patient; real patients are relieved from being exam subjects; a simulated patient can be interviewed and examined repeatedly, so that the same "patient" may be seen by a number of different students; clinical problems can be planned and examiners can control content to elicit the skills they wish to evaluate; and the patient can report his/her impressions of the performance of the individual being tested. However, many individual differences can be introduced--two actors programmed to play the same role will not give exactly the same performance, and two health care practitioners should not be expected to behave the same way with the same patient. Also, one cannot be absolutely certain that simulated patients have performed their roles exactly as instructed. When simulated patients were used in a certifying exam for family physicians in Canada, both examiners and candidates were favorably impressed with the "reality" of the situation. Lamont concluded that simulated patients can be used effectively in assessing a physician's personal skills in interacting with patients. (131)

A similar sort of role-playing can be used to evaluate affective skills. As a part of the orthopedic certifying examination, trained examiners have worked in pairs to rate the ability of the candidates to relate to patients and colleagues. One examiner takes the role of a specified patient, colleague, or allied health professional in a set of standardized encounters, while the other examiner rates the examinee who plays the role of the physician in situations such as reassuring an anxious patient, gaining a patient's cooperation in a proposed treatment plan, discussing an unfavorable prognosis or unforeseen bad result with a patient, instructing a nurse, dealing with a complex legal situation, and confronting a colleague with whom one disagrees. If this evaluation method is used, it is important that the examiners be trained and given a detailed outline of procedures and standardized case materials prior to role-playing. *(133)*

The search by educators for less time-consuming and more reliable assessment methods than rating scales, oral examinations (the use of which for certification purposes is now challenged), and problem-oriented records (discussed later) has led to the development of simulated patient diagnostic management problems, which have appeared in latent image and paper-and-pencil device forms as well as in the form of computer programs. Although the simulated problems differ from one another in appearance, manner of presentation, and scoring categories and procedures, as well as in method of presenting cues, they all present the person being tested with a simulation of a patient-practitioner encounter. Each simulated patient management problem begins with a brief description of a patient with a problem, after which the examinee is instructed to study the available information and to make diagnostic and/or therapeutic and management decisions. Each management decision made or procedure selected results in further information on which to base decisions about further procedure selection. (This information may be uncovered by erasing, hence the name "erasure tests," or it may be revealed by the computer.) Examinees may be scored on efficiency and proficiency, according to whether the procedures selected are unnecessary, helpful, or harmful. *(190)*

Simulated patient management problems have the following advantages as an evaluation technique: (a) all examinees are confronted with the same problem and have the same resources, at least initially (standardization); (b) the student may solve the problem without fear of harming the patient; and (c) scoring procedures can be objective. The major limitation of these problems in evaluation is that actions taken on paper may not be the same actions that would be taken in a real-life clinical situation; in fact they were not the same as actions taken in the clinic in a study by Goran comparing the clinical judgment of physicians with their judgment on an analogous patient management problem--those who performed best on the simulated problems did not necessarily perform best with real patients. Another limitation is that some competencies cannot be evaluated this way, e.g., the ability to establish rapport with patients. Also, patient management problems are quite expensive and time-consuming to produce. *(145, 096)*

Simulated problems, when used as assessment techniques, appear to be most useful in terms of formative rather than summative evaluation. They can serve as screening devices for students who need additional instruction and as mechanisms for immediate feedback about various aspects of problem-solving performance. Robinson cautions against comparing one student's performance to another's on the basis of simulated patient problems. (190) They can be effectively utilized as instructional devices rather than evaluation ones.

Other

Medical record auditing has also been used as a means of evaluating clinical performance and has been found to be of some value. Scott used this method to assess medical student performance and the quality of house staff supervision in an impressive study which had the following implications: the scoring method used apparently permitted discrimination in capability between levels of trainees (third- and fourth-year medical students, interns, and residents) and the identification of different strengths and defects in different individuals as a basis for individual remedial education. (196)

Some of the problems involved with the use of patient records as a basis for assessment of performance are as follows: (a) the information on records may not be standardized, which makes comparisons difficult; (b) the recorded information is frequently incomplete and inadequate; (c) the accuracy of recorded statements is questionable, e.g., the record may be faked to look good; (d) records do not generally contain information on the management of psychological and social problems; (e) unless the elements to be assessed are systematically selected and weighted, there is some danger of arbitrariness and omissions; and (f) people have tried to argue that quality of recording is associated with quality of care, but the evidence on this point is inconclusive. (032)

The use of problem-oriented records solves some of these difficulties, and they are more useful for assessment than traditional clinical records. A problem-oriented record contains a data base, a problem list, initial plans, and progress notes. Margolis et al. used a graded problem-oriented record to evaluate medical students and found that such a record could objectively measure facility at data collection, data recording, and problem-solving, and that students were taught these skills by grading a work-up themselves. (141) A problem-oriented record provides a well-defined structure for the collection of data, but it does not provide feedback about the effectiveness of a sequence of action or strategy of action.

Record abstracts are also used (though infrequently) to assess individual performance. One must consider whether the abstracting process is reliable and valid, and studies should be done to indicate whether evaluations based on abstracts agree with evaluations based on the entire record. (032) The use of abstracts would be desirable to help save time; it takes from 20 to 30 minutes to grade one problem-oriented record.

The use of oral examinations to determine clinical competence is in general disfavor at the present time because they lack both validity and objectivity. However, interviews to determine attitudes are felt by some to be of real value. Some general guidelines to follow in conducting an interview are as follows: determine the purpose of the interview; list the questions to be asked; set the stage for the interview; establish rapport (clarify purpose and start with noncontroversial topics); be sure one's questions are understood; be understanding and be attentive; record the results of the interview during or immediately after the interview; close the interview.

In interpreting the interview, the following factors must be considered: (a) interviewer bias may have been reflected in wording, tone, and acceptance; (b) the circumstances of the interview can influence the responses of the individual being interviewed; and (c) an interview yields gross measurements at best, so interview data should not be used for refined measurements. One can go over the results of an interview and make a list of statements made that reflect an attitude; this will contribute to developing a general picture of the student's "persistent general orientation toward the environment." (154)

Some clinical instructors require students to keep a log-diary of their clinical activities and their reactions to experiences; this document may also be analyzed as a basis for attitude evaluation. One should give careful instructions regarding how the log-diary is to be kept, specifying the amount of time to be spent recording every day and setting forth what one wants reactions to, while encouraging the diarist to feel free to add other reactions. Read the diary entry as soon as it is submitted. List statements in the entry that seem to be in favor of something related to clinical education; also list statements opposed and other points of view not polarized; then use these lists as a basis for analysis. Patterns of reactions, contradictions, and inconsistencies will emerge over the days and weeks. (154)

Attitudes may also be measured by the administration of relatively precise attitude scales. These scales should only be prepared by educational measurement experts; allied health educators without expert help are recommended to rely on other means of assessing attitudes.

The measurement of attitudes is a complex undertaking and presents many difficulties. The measurability of attitudes on the dimensions of favorableness and intensity is influenced to a great degree by their publicness, generality, and salience. If an attitude is not salient (close to the surface), it may never get expressed in a free-response situation, and the instructor may assume that the student does not care, when in fact he/she may care a great deal. Likewise, if an attitude is only held privately or covertly, rather than publicly, it may not be possible to measure it with any validity. Another difficulty is that the student may take the approach of demonstrating any attitude that is wanted. Whether or not attitudes can and should be inferred from behavior depends on whether good records of behavior are kept, how much opportunity to observe exists, the extent to which the student feels free in his/her behavior, and how sophisticated the staff is in making inferences. If an attitude lacks generality, inferences about it which are drawn from behavior may be erroneous. (154)

EVALUATION FOCUS

The place, the people, and the process are the focus for evaluative efforts in physical therapy clinical education. This section of Chapter 6 comments on all these areas.

Evaluation of the Student

Of all the aspects of clinical education which have been considered for evaluation, the student has received the most attention and the process of that evaluation is continually involved in controversy. This is because of the large number of students, the levels of educational preparedness, and the large number of clinical centers to which students are assigned. One clinical center which affiliates with only one educational institution has little difficulty in handling the student evaluation requirements of the few students who come to the center, although the time and effort devoted to the process can be considerable. When a clinical center accepts students from several educational institutions, the process increases in complexity because of the variety and numbers of devices CIs are asked to utilize in evaluating students who are assigned for different objectives, at different levels of education, and for varying lengths of time. In spite of all these complexities, the student has still been the most closely scrutinized of all components of the clinical education process.

The primary benefactor of the evaluation is the individual student. However, the information gleaned from the evaluation of students should prove beneficial to later groups of students, to the faculty who are responsible for curriculum design and implementation, and to the potential employers of the graduate. Information may also be used to reinforce curriculum design and objectives, and it may indicate that changes are needed or that recruitment practices should be modified.

Purposes for evaluation can be complex and varied and one approach or device cannot be considered as satisfying all possible objectives. As mentioned many times throughout this report, the purpose for evaluation at any time or place should be carefully considered and known to all participants before it is implemented. The criteria or standards on which the evaluation is based should also be known by all participants, and certainly by the student involved. The criteria or standards on which the student will be evaluated must also be realistic in relation to function and future activities. There is little in physical therapy literature to indicate that these criteria have been sufficiently studied to be realistic, and there is no information in physical therapy literature that indicates the current recommendations for use of competencies have been sufficiently studied to make them valid and realistic for general use. *(220)*

Most of the evaluation of physical therapy students is initiated by faculty in the academic institution, and the forms which are designed to be completed by clinical faculty are basically those developed by the academic institution with some input from clinical faculty and students. These forms vary greatly in scope, size, and content, as shown by the many forms which were received by the Project on Clinical Education in the "soft data." The information desired on the student covers a number of areas of interest. The types of forms that have been utilized also range in format, from the highly sophisticated document to a very simplistic narrative description. Some devices were for evaluating the student, others were for the student to assess the clinical center, the learning experiences participated in, and the clinical faculty; a few were for other purposes.

Frierson has criticized existing forms on their types, the systems used to obtain data, the content of the instruments, and the form and structure. Using four criteria areas, he studied 58 different forms which were being utilized to evaluate physical therapist students and found only 27 percent of the forms to be of acceptable quality. Others were either minimally acceptable or unacceptable in his judgment. Of the 22 devices submitted in the study for evaluating physical therapist assistant students, 32 percent were judged acceptable. Information-gathering systems, content of items, and format of instructions to raters were found deficient on most of the devices evaluated. *(092)*

There is a trend, not adequately reported in the literature, for clinical staff to develop their own evaluation devices, regardless of the number of affiliating educational institutions. This approach is being used for several reasons. Locally designed devices are being developed because they are based on the clinical education objectives and the availability of learning experiences at a particular clinical education site and are not structured to the desires of an educational institution. Results in synopsis form or intact are sent to the academic coordinators of clinical education (ACCEs) for their own purposes. This approach may indeed be educationally sound. Other clinical faculty have indicated that they were designing their own educational evaluation instruments in order to reduce the number and types of instruments that they have been receiving from the sending institutions.

Some clinical centers with small staffs are unable to devote the time and do not have the expert skills needed to develop their own evaluation devices and must rely on the materials prepared at the educational institution or must rely on help from the educational institution in preparing some type of device. There are still some who believe that the student evaluation device should originate with the educational institution and not with the clinical education center.

The fluctuations in the content and quality of currently used evaluation devices make it difficult, if not impossible, for longitudinal studies to be effective, particularly when there is such a variety of student backgrounds and clinical education sites. The materials are not uniform, nor are they produced in an acceptable or usable fashion. There is a lack of agreement on the specific items to be evaluated, on the criteria on which to make judgments, on grading inferences and differences, and on scoring techniques. It is interesting to note that the University of North Carolina at Chapel Hill (UNC-CH) study gave no indication of unwillingness on the part of the CIs to complete the many and varied evaluation devices which come to them.

There also is little indication in physical therapy literature that self-evaluation and peer evaluation are being utilized for clinical education assessment, although the literature does indicate that in nursing and medicine these techniques are in use. *(185, 124, 129, 206, 103)* Some of them involve the patient record review or the medical audit technique as carried out by the individual or his peers. Self-evaluation techniques developed on the basis of the standards of a physical therapy education program or the objectives of an individual curriculum have not been reported, to the Project's knowledge.

The use of management by objectives for assessing staff performance is not new, but the inclusion of its use in assessing student achievement is thought to be increasing, although the level of its use is unknown.

On the multiple student-assessment forms which were studied by the Project, there were literally hundreds of items included, covering not only the topics in the essentials of an educational program and the curriculum objectives but also personal characteristics. One of Frierson's primary comments on the evaluation devices that he analyzed was that the definition of terms was often inadequate, and some of the items appeared irrelevant to clinical performance and should be studied in different ways if educators felt that the personal characteristics needed assessing. (092)

Evaluation of the student is a controversial but necessary time-consuming effort. The Project recommended that educators reduce the multiplicity of forms and requests for completion and strive to improve the quality of the devices and the evaluation program. Whatever is done should be based on sound fundamentals of evaluation, as discussed in preceding sections of this chapter. The assistance of experts in evaluation, including the design and utilization of instruments, would be advisable.

Grading

Grading is an area of student evaluation involving highly complex issues which have important implications. It is also an emotionally charged topic: George Miller has observed that the mere suggestion that grading practices be reexamined often meets with "the kind of emotional response usually reserved for attacks on the basic structure of society and its philosophy." (154) Miller wishes to make the point that this emotionalism, engendered by the traditionalism of conventional grading practices, is irrational and overreactive; it hinders reasonable efforts to determine the worth of a grading system or to weigh alternatives to conventional systems. The following discussion attempts to be a reasonable effort to shed light on the confusing and controversial subject of grades and grading practices; it examines some of the effects of grading in light of the functions grades are intended to serve.

Grades do, of course, have a variety of functions, which Miller classifies as follows: (a) to provide data for promotion, transfer, and graduation (administrative function); (b) to stimulate increased effort to earn good marks (motivational function); (c) to identify special abilities and weaknesses of the individual student (guidance function); and (d) to inform the student of his progress toward the goals of the educational program (information function). Much of the criticism of grades has been directed at the consequences of their use for administrative and motivational purposes; single-symbol grades have also been attacked as inadequate for guidance and information purposes.

The administrative function of grading is, unfortunately, not always confined simply to providing data for promotion, transfer, and graduation, and is not always as innocuous as this definition might imply. One of the administrative functions of grading is sorting and sifting students and differentiating among them for consumers (i.e., graduate schools and future employers). Such differentiation almost always involves comparing students to one another and rejecting some by attaching negative labels to them; the objection to many innovative grading systems (such as pass/fail) is that they do not sufficiently label students. The adverse effects of such labeling on learning and on the student's self-concept are so great that Becker has suggested that the notion of differentiating among students for consumers be abandoned altogether; let them find some way to differentiate for themselves, and leave the universities free to concentrate on teaching and learning. *(035)* This would lessen the threatening aspect of grading for the student.

A further objection to grades recorded for administrative purposes is that they are often used to make decisions based on the assumption that grades predict career performance, when in fact they usually do not. *(242, 114, 084, 136)* Because grades are often arbitrary and relative, the administrative use of grades has also been criticized for attaching too much importance to nonsignificant differences in numerical averages. *(037)* Greater clarification of what grades actually measure is needed if they are to be used administratively with any validity.

The motivational function of grading has also come under sharp attack, and has been condemned as particularly inappropriate in the education of health care professionals. Miller asserts that the motivational function of grading seriously hampers efforts to achieve goals related to the development of work and study habits, self-initiated study, and understanding of the intrinsic value of the acquisition of knowledge and skills. In order to become self-directed and to develop habits of continuing study, students must be "freed from the clutch of motivational grading and reporting practices." It is unfortunate that grades have become the rewards of learning; professional education should build a set of values to replace this heavy dependency on grades as rewards. *(154)*

Grades as rewards often have the further undesirable effect of rewarding kinds of behavior other than those educators may have wished to encourage. Becker found that the necessity of making a good impression on the clinical faculty resulted in docile behavior among medical students and fishing for answers. Because faculty members gave grades, students concentrated on learning to handle the teacher rather than on learning medicine. *(036)*

Many of the undesirable consequences associated with grading have arisen from the fact that it has traditionally been norm-referenced, used to compare students to one another by grading them on the normal curve. Part of the essence of norm-referenced evaluation is the expectation that the relationship between aptitude and achievement will be high, and that grades will differentiate among students on the basis of ability rather than reflect accomplishment. Norm-referenced evaluation encourages competition among students and teaches students that only a few can succeed, thus conditioning the individual student to accept less than mastery-level performance from himself or herself. Traditional A-to-F grading systems deny recognition of mastery to a majority of students by limiting the number of As which can be awarded: any grade of less than A implies less than mastery and has negative affective consequences for the student.

The damaging effects and educational implications of norm-referenced evaluation have been eloquently documented by Benjamin S. Bloom in his landmark article, "Learning for Mastery." *(042)* Because norm-referenced evaluation creates the expectation that large numbers of students will never achieve mastery--a self-fulfilling prophecy--Bloom damns it as:

> . . . the most wasteful and destructive aspect of the present educational system. It reduces the aspirations of both teachers and students; it reduces motivation for learning in students; and it systematically destroys the ego and self-concept of a sizable group of students by frustrating and humiliating them.

The alternative to norm-referenced evaluation is criterion-referenced evaluation, which sets standards of mastery and excellence apart from interstudent competition, and judges students in terms of level of performance rather than a normal curve or some other arbitrary and relative set of standards. Criterion-referenced evaluation can alleviate many of the problems associated with grading. Bloom stresses the student's need for public recognition of his mastery: to meet this need is the appropriate administrative function of grading. The desire for public recognition of mastery is a valid and valuable source of motivation. Grades which can provide the necessary reassurance and reinforcement to help the student to view himself as adequate fulfill the motivational function of grading in a nondestructive manner. Mastery and the desire for recognition of mastery are not arbitrary rewards; they operate just as strongly outside the educational system as within it.

Criterion-referenced evaluation stresses the guidance and information functions of grading. The emphasis is on identifying areas where the student may need special assistance in order to attain mastery, and on ascertaining what sort of assistance the student may need. Diagnosis of nonmastery is always to be accompanied by a detailed prescription of what is to be done before mastery will be complete. Criterion-referenced evaluation is also potentially student-centered; students can be given the option of choosing the method whereby they demonstrate their mastery to the instructor, thus lessening the threatening aspect of grading. *(114)*

As the value of criterion-referenced evaluation has become increasingly recognized, educators have tended to favor adoption of the simplest means possible for certifying that a body of subject matter has been satisfactorily completed or mastered. *(037, 125, 114, 072, 172)* This is usually some sort of pass/fail system. Bender found that grade emphasis at medical schools where pass/fail grading systems were in effect was less than at schools where a letter or number system was in use; the implication is that pass/fail tends to minimize the undesirable consequences of the motivational function of grading. In another study *(125)* medical students in a surgical clerkship were asked to share responsibility for developing evaluation techniques. They expressed a preference for an "honors," "pass," and "therapy" grading system, in which no student could be failed without having been apprised of the reasons his/her work was unsatisfactory and without the effort of all concerned to help the individual correct deficiencies; the atmosphere became less competitive under this system than it had been under the A-to-F grading system formerly in use. Hullinger *(114)* has suggested that failing grades should never be given: the student should get "pass" if he/she has attained mastery and "incomplete" if he/she has not; a student who repeatedly fails to achieve mastery should be counseled into leaving the profession. This suggestion is very much in keeping with the spirit of mastery learning--it is probably not at all helpful to the student to label nonmastery as failure.

Pass/fail grades obviously do not provide enough information about performance to fulfill adequately the guidance and information functions of grading. However, this is also true of traditional letter and number grades. A single symbol cannot describe complex achievements with respect to numerous goals; a single letter or number obscures the unique patterns of the individual student. Information is always lost and evaluation results are sometimes distorted when various types of performance are lumped together into one value; whenever possible single grades should be broken into a spectrum of components. If global judgments are absolutely necessary (for administrative purposes, or for whatever reason), let them be confined to certification of satisfactory or unsatisfactory work and accompanied by a detailed profile or narrative write-ups which reflect the student's strengths and weaknesses. This profile may in turn be supplemented by teacher-student conferences for the purpose of informing the student and guiding learning. The written profile or narrative is also available if needed by secondary consumers. *(146, 154, 242, 072)*

The inconsistencies and difficulties in grading the multiplicity of physical therapy students who vary by levels of experience, length of assignments, and types of assignments are routinely felt by educators in the clinical setting and in the classroom. There has been some discussion, but little evidence of lack of acceptance of the evaluation and grades submitted by the clinical faculty to the academic institution. ACCE reports have shown that the student who has an unsatisfactory performance on one assignment most often will be required to repeat the assignment somewhere else. A less frequently used way of dealing with failure or unsatisfactory performance, according to the UNC-CH study, is to average the grade in with all other grades for the term, or to use personal judgment by considering circumstances surrounding the failure based in part on the student's feedback as well as on the clinical faculty member's assessment. (See Tables 6.1 and 6.2.)

It is not known to what extent grading procedures for clinical education are covered in promotion policies for the academic institution, but it is the opinion of the Project task force members that some of the misunderstandings and confusions which exist are due to promotion policies and grading procedures which are unclear about the methods utilized for handling student performance from one assignment to another.

The grading process might be improved and trauma to the students reduced by more efforts to predetermine objectives for each student assignment and then evaluating the student on the criteria of those objectives. Learning would become more self-directed, and students would be more aware of what was expected of them and how they had achieved on the basis of the desired competencies or the previously determined objectives for each assignment.

(For the Project on Clinical Education's conclusions and recommendations on evaluation of the student, see pages 2-39 through 2-44.)

Evaluation of the Clinical Education Site

The ACCE, who is based at the educational institution, is charged with the responsibility of recommending affiliation agreements with clinical centers for the clinical education assignment of students, as discussed in preceding chapters. The ACCE must also continue to work with staff in the clinical centers in order to maintain and improve the relationships for the benefit of all involved. Therefore, the ACCE's mission is to select clinical education sites which are suitable from the educational point of view and which have objectives and goals compatible with the philosophy of education of the academic institution and compatible with the educational objectives of the curriculum. *(004)*

The ACCE must seek sites that meet the needs of the curriculum, the needs and objectives of the students, and the geographic requirements for effective liaison and communication. The clinical center must be evaluated on the basis of criteria developed by the educational institution and on those elements required by the essentials of acceptable educational programs in physical therapy. *(014)*

The clinical center staff should assess its own institution based on the philosophy, objectives, and resources of the center. One manner in which this can be done is expressed in the standards for a clinical education site developed for the Project and set forth in Appendix B. The content of these standards represents materials which have appeared in the literature of physical therapy, nursing, medical record administration, medical technology, radiologic technology, occupational therapy, and other health fields. *(207, 093, 170, 122, 044, 151, 162, 050, 149, 016, 002)* The 20 standards are discussed in Appendix B, which also includes a self-assessment inventory for guidelines in their application.

Participative planning for evaluation depends on maintaining close relationships. Continual efforts should be made to reinforce the contact between the academic institution and the clinical education center. These efforts can be encouraged by an exchange of visits, telephone calls, correspondence, clinical faculty meetings, workshops, and a host of other activities.

Currently evaluation of the clinical center takes place on a fairly informal basis, except for the initial request from the ACCE to the clinical center for basic information on structure, activities, and staff in the clinical center. There is frequently a yearly request for updated material on staff, annual reports, and facility and program changes, but there is little to indicate that much formal evaluation takes place between the educational institution and the clinical center.

The typical ACCE does attempt to visit clinical centers at least once a year, although such visits were considered more important by the academic faculty than they were by the clinical center staff according to the UNC-CH study in 1975. Some clinical centers were not visited every year, while others have repeated visits during the year.

There is no indication that visits from the ACCE to the clinical center have been very well structured. Most meetings or visits apparently include a reassessment of the relationships between the two institutions, including an assessment of the performance of students who have been or are currently affiliating, as well as an opportunity to bring the clinical center staff up to date on changes in the curriculum. Information available to the Project does not indicate that visits have been structured to include regular appointments with key administrative officials or specific topics for an agenda to be covered.

Since one of the important uses of evaluation results is in negotiating inter-institutional agreements, the Project was interested in the kinds of information about a clinical center that were being looked at. Qualifications of the staff, the professional staff's interest in professional activities, staff adequacy for all of their roles (including care and teaching), administrative support for the clinical education program, and accessibility to learning experiences other than patient care were some of the items to be examined initially and later evaluated for changes. Apparently a large number of decisions were made on the basis of subjective impressions about the mood and atmosphere of the physical therapy service, its appearance, the warmth and receptiveness of the staff to the visitor, and other such matters.

Feedback from students has been routinely sought by ACCEs; such information was usually obtained on evaluation devices designed by the educational institution and completed by the students. Items covered included what the student learned, what influenced learning, the nature of the orientation program, the attainment of expectations, the adequacy of supervision and instruction, and the type and quality of the learning experiences. (*115, 116, 201, 165, 006, 169, 007*)

Students have been frequently asked to critique an assignment to a clinical education center on forms designed by staff in the clinical center for their own use. The devices available for the Project's analysis, from both the academic institutions and the clinical centers, tended to require narrative responses and were very open-ended in structure. Most did not meet the recommended standards of reliability and validity for an evaluation instrument as previously described in this chapter. There was no information on most of the devices concerning how the information would be utilized by either the clinical center or the academic institution.

(For the Project on Clinical Education's conclusions and recommendations on evaluation of the clinical center, see pages 2-39 - 2-44.)

Evaluation of the Clinical Faculty

That clinical faculty members (ACCE, CCCE, CI) should all be evaluated seems generally accepted. The "soft data" available to the Project indicate an interest in the matter on the part of the clinical centers, many of which have taken the initiative in obtaining some type of feedback regarding the quality of the clinical instruction they are offering. As mentioned above, however, evaluation forms have been erratically used and poorly constructed. Much of the academic community appears to have neglected clinical faculty evaluation.

The purposes of clinical faculty evaluation are multiple and are dependent on who is being evaluated and who is doing the evaluating, but in all cases the conclusions drawn from the evaluations form the basis for subsequent actions Diagnostic evaluation can be utilized to determine the strengths and weaknesses of a clinical faculty member. Formative evaluation can be utilized to determine the level of performance of a clinical faculty member at any point in his/her development, to determine progress toward goals or to modify or reinforce behavior. Summative evaluation can be utilized to determine if the clinical faculty member has attained specific goals or competencies--if a person should be promoted, selected for another level of responsibility, credentialed as an educational specialist, or given an academic appointment. It should be remembered that the primary goal of clinical faculty evaluation, however, is to improve the instruction of students in the clinical education program.

The evaluation program for clinical faculty members can wisely include both formal procedures and informal procedures. The word "evaluation" immediately conjures up visions of forms, survey teams, and face-to-face conferences. These are indeed part of evaluation and an important part. They are all concerned with the formal aspects of evaluation. Equally important, though, are the informal mechanisms for evaluation. These involve frequent contact and interchange between the evaluator and evaluatee, as well as the internal and ongoing process of informal self-evaluation by the individual clinical faculty member. The informal process of evaluation is generally less structured than the formal process, though specific plans and devices also need to be utilized in the informal process. The formal process of evaluation requires gathering evaluative information in an organized manner from all sources and synthesizing the data. The process may involve self-evaluation techniques. It is important to share total information gathered with the clinical faculty member in a face-to-face conference. The individual can then review the synthesized material and develop a personal plan of action in response to the data in order to reinforce behavior or to modify it.

Expertise, time, and planning are mandatory for the preparation and operation of a good evaluation process. Persons with expertise in the areas of evaluation, clinical education, and physical therapy all have a role in developing the process as well as any device utilized. Terms used in an instrument must be well-defined; the instructions must be clearcut; and the device should be based on sound fundamentals of evaluation. Refer to earlier parts of this chapter for a more detailed discussion of these points. The Project task force members preferred an evaluation device which utilized a rating scale but also allowed narrative comments pertinent to specific topics. This format is generally supported in the literature; indeed, most of the forms received in the "soft data" were of this type.

The timing of evaluation is crucial. It has been stressed that if a student does not learn of shortcomings until the end of an assignment, behaviors cannot be changed to fulfill previously established requirements. The situation is similar for the clinical faculty member, who also needs frequent feedback regarding performance. The informal evaluation processes which are ongoing can provide almost continuous feedback. Such formalized evaluation as administering a lengthy instrument is time-consuming and can usually only be carried out once annually. Another formal process carried out more frequently is evaluation by the student. This is usually done at the end of logical periods--semester, quarter, year, affiliation period. On extended assignments student feedback may be elicited during the period to allow the clinical faculty member to modify his or her behavior if necessary.

Evaluators and evaluatees can be interchangeable. The student has contact with all of the clinical faculty members and can be a valid source as well as subject of evaluative information. The ACCE, CCCE, and CI all have a differing degree and type of contact with each other, and they can each provide the other with information regarding different aspects of their functioning. The ACCE is responsible for selecting clinical centers and as part of that process the CCCE and CIs are usually evaluated; feedback from that evaluation should of course be shared. The importance of self-evaluation has already been stated, but it cannot be overemphasized. The great advantage of self-evaluation is the increased commitment to quality that it implies and the value of the process for lifelong development. In addition to the immediate superior, a useful source of evaluation is one's peers. A buddy system of evaluation in which two people are working with each other to develop their teaching skills and to evaluate each other can be quite successful. *(028)*

The final question to be dealt with in clinical faculty evaluation is what should be evaluated. There are many sources for determining what to evaluate about the clinical faculty. The most obvious source is the individual's job description. Various APTA publications and the literature on this subject (reviewed in Chapter 4) are particularly helpful. Basically, the areas to be evaluated include but are not limited to patient care service commitments, communications, administration, personal growth, education, research, and scholarship. *(014, 009, 012, 013, 077)*

Data on Faculty Evaluation

Virtually no mechanism for assessing the performance of the ACCE was discovered by the Project on Clinical Education. An evaluation by the academic program director could be assumed, but there is no evidence in the literature, the UNC-CH study, or the "soft data" to indicate what process is carried out. Since the individual is an academic employee, the evaluation process is probably in keeping with the educational institution's procedures, which may not be adequate. The task force members who dealt with evaluation identified various methods for evaluating the ACCE, and these are reflected in Chapter 2, Section D.

The situation for the CCCE is similar; evaluation of the CCCE by the Director of Physical Therapy is likely, but the mechanism is not known. This individual is probably evaluated on devices utilized by the employing agency. The content may not relate to CCCE's duties. Functions that the CCCE and CI share, however, have been the subject of evaluation, according to information available to the Project.

The clinical education functions of the CI have been evaluated by a variety of means, though most of them do not appear to be well planned and well executed. Table 6.3 indicates the areas of CI performance (according to the "soft data") which were examined by the student. Table 6.4 indicates areas examined by other staff members. The order in which the categories appear does not indicate the frequency of their appearance. The major categories--such as personal characteristics and ability in patient care, supervision, instruction, evaluation, and interpersonal relations--seem to reflect the clinical education duties and responsibilities of the CI. The listing in Table 6.4 includes items that staff members rather than students could evaluate. The two listings combined offer a comprehensive view of the duties of the CI. A major difficulty, however, can be the method used to evaluate these items.

For the most part the evaluation of the CI by the student has been included in other types of evaluations--evaluation of the center, the clinical education program, or the learning experience; it has not been a separate or complete evaluation process. In devices studied by the Project the evaluative items generally were not well-constructed; they tended to be vague, open-ended, or simple checklists. Those offering more structure suffered from vagueness in the scale anchors, behavioral definitions, and instructions to raters. (See Appendix E.)

Forms for the evaluation of the CI by the clinical staff generally indicated more work and preparation. They evaluated more than the clinical education responsibilities of the CI; in many cases the clinical education responsibilities were not evaluated. Items were often unclear, and rater instructions were often lacking or inadequate. A number of evaluation devices did not appear to be specific for the duties of a CI. A few of the forms that were submitted were medical record audit worksheets, and a few others indicated a peer review committee. One form, particularly worthy of mention because of its potential for others to adapt for clinical faculty evaluation, indicated a buddy system of evaluation. The staff members were paired and each performed a self-evaluation and an evaluation of their buddy. After that process they jointly, with the input of their supervisor, set personal objectives. The form, however, was open-ended and gave the clinicians little guidance in what to look for in their evaluation. No information was available regarding the effectiveness or acceptability of this method. The literature reports this type of evaluation utilized to improve education, both classroom and clinical; learning occurs through observing, evaluating, and discussing the performances of one another. *(001, 028)*

(For the Project on Clinical Education's conclusions and recommendations on evaluation of the clinical faculty, see pages 2-48 - 2-52.)

Evaluation of Learning Experiences

Most of the assessment of learning experiences participated in by students takes place at the completion of an assignment or during the assignment. If the program goes well and students are content or happy and are receiving satisfactory experiences, communications between the students and the ACCE are probably minimal. But, if deficiencies or difficulties arise, ACCEs will usually be informed and efforts can be made to correct the situation. The form which the student usually is asked to complete at the termination of an assignment, is often a mixture of items concerning the facility and the clinical faculty as well as the learning experiences. Often items on these three areas are intermingled and are not clearly distinguished one from another.

Faculty can also evaluate the quality of the students' learning experiences by assessing the level of competency of students on subsequent assignments, comprehensive examinations, certification examinations, and postgraduation assessment.

The ACCE also evaluates the availability, use, and quality of learning experiences by visiting the centers and other communication with the clinical faculty in the centers (e.g., supervisors meetings and workshops). The ACCE should assess learning experiences in terms of their quality and the competencies which result from their utilization by students. Learning experiences include patient-related activities as well as administrative, supervisory, teaching, consulting, and professional development. Learning experiences associated with visual aids, the library, lectures, demonstrations, workshops, inservice education programs, special study projects, independent study projects, and meetings of all kinds should also be scrutinized. *(077)*

Of the evaluation forms examined by the Project, the majority of those which included items for assessing learning experiences were insufficient on the basis of instructions to the rater, content coverage, format, item construction, and identifiable purpose of the instrument. Most of the devices were open-ended, requiring only narrative comments. The resulting information obtained from these assessments can be utilized only with great difficulty by the ACCE or the CCCE because of the lack of uniformity and structure in design. Few conclusions can be drawn with data collected under this type of system.

Several educational institutions use simple checklists which students are to complete by indicating the kind and number of activities in which they have participated, but without any opportunity to make judgments about the quality of these experiences. Only a few of the devices were written in behavioral terms or gave any indication of the range of learning experiences which the student might have expected. Guidelines on designing learning experiences and evaluation devices are available from a number of sources and would be helpful to those contemplating a revision of devices or the structuring of new ones. *(050, 077)*

A recent study by Pinkston is a valuable contribution to the literature on designing a clinical education program and the involvement of the clinical staff in assessing the learning experiences participated in by students. Although much of the content of the article is directed toward the assessment of the student, a great deal of attention is directed to the quality and the scope of the learning experiences available and utilized. *(185)*

Few of the published studies on the follow-up of graduates of physical therapy educational programs include any assessment of student learning activities. In the "soft data" obtained from the academic faculty, there were only two evaluation instruments for assessing the overall education experience of students which included any assessment of the learning experiences utilized.

Medical educators have studied the impact of different learning experiences on groups of students. Studies include experiences in community health, surgical and pediatric clerkships, group work which is student-centered, and problem-oriented records as they relate to consecutive case conferences. Groups of students with different experiences in the same subject-matter area were analyzed in a variety of ways to assist in determining the most effective teaching strategies. Other studies have compared the effects of simulations associated with clinical situations using a variety of simulation techniques. *(128, 147, 232, 240, 125, 166, 138, 064)*

Few studies exist to advance or defend the effectiveness of selected learning experiences. Ideally, in planning any educational activity--including learning experiences in the clinical situation--the method of evaluating these experiences should be part of the initial planning process, in keeping with sound educational design.

(For the Project on Clinical Education's conclusions and recommendations on evaluation of learning experiences, see pages 2-52 - 2-55.)

Evaluation of the Curriculum

Evaluation of the curriculum or a part of the curriculum can be complex or relatively simple, but the objectives and the parameters of the process should be clearly defined before undertaking the project. *(171, 169)*

There are many purposes for undertaking curriculum evaluation, including: (a) confirming the hypothesis upon which the curriculum is built, (b) measuring the extent to which the program is successful in achieving its objectives, (c) measuring an institution's strengths and weaknesses, (d) assessing discrepencies between the program objectives and the outcomes of the educational program as implemented, and (e) studying the effect of curriculum changes over a period of time. Other ways of looking at objectives of a curriculum involve obtaining material for comparison with other programs; contributing to the general fund of knowledge on curriculum design and effectiveness; justifying the content, control, and learning process associated with a curriculum; and determining the adequacy of the curriculum in preparing students to perform their employment roles as graduates. *(223, 169, 068, 002, 216, 179, 200)*

The focus of a curriculum evaluation can take many directions. The student can be the main focus of study in terms of competencies and growth reflecting weaknesses and strengths of the curriculum. Graduates of the curriculum can be the focus of study in terms of their original role expectations in comparison with the actual job responsibilities they are undertaking, as well as their ability to perform these responsibilities. The faculty can be a focus--e.g., their teaching in courses as assessed by themselves, their peers, students, and the impact of their teaching on the performance of the graduate. The content of the curriculum should receive attention based on its effectiveness, appropriateness, scope, depth, and relevance. Curriculum studies should focus on the utilization of resources of the curriculum involving people, money, and facilities as they affect execution of the curriculum and the efficiency and effectiveness by which the process is conducted. The design of the curriculum can be the target of study--e.g., the manner in which the program is constructed and executed in relation to its effect on learning outcomes and satisfactions of the students, graduates, and faculty. *(243, 197, 165)*

Mortimor relates accountability to evaluation, although he stresses the difference in the two. As mentioned at the beginning of this chapter, evaluation is concerned with "educational effectiveness," a more internal process, and accountability relates to "a combination of educational effectiveness and efficiency," a more external process. Internal accountability is affected by the nature of the educational institution, the goals and objectives of the program, and the organizational complexities of the curriculum. He also addresses, as part of internal accountability, the faculty's accountability to their peers, their students, and their institution as well as to themselves and the profession they represent. The external assessment would involve society, government, the courts, and law enforcement agencies, as well as statewide governing boards and coordinating agencies. (165)

There are many recommended processes for executing a curriculum evaluation. Two of the most helpful are by Payne and Scriven. Payne outlines seven steps involving specification and modification of program goals, planning, data-gathering methods, collection of data, analysis of data, comparing data and objectives, and reporting the feedback results. (179)

Scriven discusses a variety of approaches in assessing merits of the educational process including professional versus amateur methodologies, evaluation studies and process studies, evaluation versus estimation of goal achievement, payoff evaluation versus intrinsic evaluation and a variety of other approaches. (197)

Those involved in the process of clinical education should participate in the process of curriculum evaluation by self-assessment techniques, as well as by being evaluated by their peers, superiors, and consumers. A variety of devices can be used to elicit the necessary data on which to evaluate the effectiveness and outcomes of the curriculum.

The quality of the effort devoted to curriculum evaluation will of course affect the reliability and validity of the results. Many efforts lack sophistication and few are truly professional in design and implementation. Instead of insufficient evidence based on whims and opinions, one should follow the approach that gives sound, thorough, systematic, and competent results that provide a basis for comparison, longitudinal studies, and legitimate decision-making. Utilization of a professionally planned and appropriate process produces highly valuable and dependable information on which to make sound judgments for future planning. (171)

Although such devices were not requested, the "soft-data" information submitted to the Project by educational administrators included three instruments which were designed to evaluate in part the clinical education phase of the curriculum; only one device focused on the entire curriculum. The clinical education component of the curriculum apparently has most often been evaluated in relation to individual assignments and units of work, rather than as a complete entity. Project task force members, on the basis of their experience, believe that curriculums are actually evaluated in far more instances than would be concluded from the number of devices available for review or noted in the literature. Task force members concluded that evaluation of the entire curriculum is more educationally sound than an assessment of only the clinical education component.

(For all the Project on Clinical Education's conclusions and recommendations on evaluation of the curriculum, see pages 2-55 - 2-58.)

CONCLUSION

In closing this chapter on the evaluation process in physical therapy education, especially clinical education, it is important to emphasize once again that an evaluation program is only as good as the use that is made of its findings. A sophisticated instrument, reliable and valid and administered and interpreted by highly qualified individuals, is of no use if the results are not related to the intended purpose--however mundane that purpose may be or however difficult the decisions that are indicated.

Table 6.1
DEALING WITH STUDENT FAILURE

Method	Frequency of use (%)*							
	Always		Usually		Never		Mean**	
	CCCE %	CI %	CCCE %	CI %	CCCE %	CI %	CCCE	CI
Day to day feedback to student	64	66	29	30	0	0	3.6	3.6
Midterm and final evaluation conference with student	87	86	10	7	0	3	3.8	3.8
Take information from CI and talk with student	71	-	22	-	2	-	3.6	-
Tell CCCE and let him/her handle it	-	33	-	9	-	33	-	2.4
Tell ACCE and let him/her handle it	19	28	14	15	28	31	2.2	2.4
Send final evaluation to academic program and let them handle it	23	29	8	13	54	40	2.0	2.3
Ask ACCE to remove student from center	3	1	0	4	77	77	1.3	1.3
Confer with CCCE	-	66	-	18	-	13	-	3.4

Source: UNC-CH study, 1975

* Frequency indicated is % of respondents replying to each item; total number of respondents was 140 for CIs and 127 for CCCEs.

** 4 point scale
1 = never
4 = always

Table 6.2
INCONSISTENCIES AND DIFFICULTIES IN EVALUATION

Sources of Inconsistencies and Difficulties
Misinterpretation of guidelines
Infrequent evaluation may lead to uneven evaluation
Lack of standards of evaluation process (criteria)
Subjectivity
Objectives vary from school to school or within center
Relationship between clinical center and education program varies
Level of sophistication of evaluator varies
Personal "sets" or biases of evaluator
Conflicts between evaluator and student may occur
Different philosophies between academic programs
Lack of sharing of student evaluation with student or CCCE from clinic to clinic
Lack of continuity of the evaluation of student
Effect of grading on evaluator and evaluatee
Time involved in actual process with or without other duties
Devices which measure complex behaviors are difficult to devise
Staff must be trained to be evaluators
Sitting in judgment of others is not generally liked
Conflict in views of uses of evaluation among educational program, clinical center, and student about who uses evaluation and how
New federal law on disclosure of records
Lack of acceptance of clinical center's evaluation by educational programs
Number of centers and evaluators
Number of students
Number and types of evaluation forms
Length of time on which to base evaluation (time student is in clinical center)
Student is unfamiliar with device used
Student is unappreciative of process
Decisions are made on limited sampling
Not biasing current evaluation by knowledge of prior evaluations
Separating levels of clinical assignments (role or task difficulty and levels of competency)
Personality differences

Source: Task force deliberations, 1975

Table 6.3

AREAS OF PERFORMANCE OF THE CLINICAL INSTRUCTOR TO BE EVALUATED BY THE STUDENT

Areas of Performance

- Ability as a physical therapist
  - Knowledge and experience
  - Patient care
  - Self-confidence
  - Utilization of time
  - Professionalism
  - Teaching ability

- Supervision
  - Amount
  - Quality
  - Type
  - Feedback (constructive content and timing)
  - Availability of instructor
  - Recommended changes

- Instruction
  - Strengths
  - Weaknesses
  - Types of presentations
  - Subjects presented (explanation of treatment procedures and rationale, of patients' disabilities, etc.)
  - Stimulating the student to think
  - Reading recommended material
  - New material presented
  - Type and quality of instruction
  - Additional instruction needed
  - Amount of repetition

- Evaluation of student by CI
  - Fairness
  - Frequency
  - Structure or content
  - Meetings with supervisor
  - Forms used
  - CI's expectations of student
  - Willingness of CI to complete student evaluations

- Interpersonal relations with student
  - Communication
  - Problems
  - Exchange of knowledge and ideas
  - Respect for student
  - Confidence in each other
  - Ability to listen to student
  - Student's feeling at ease with CI
  - Support from CI

- Personal characteristics
  - Interest in teaching
  - Interest in affiliate's development
  - Receptiveness to student's suggestions and criticisms
  - Flexibility
  - Understanding
  - Honesty
  - Sense of humor
  - Ability to control emotions
  - Objectivity
  - Characteristics that helped student learn
  - Characteristics that detracted from learning

- Overall rating of CI (fulfillment of student's expectations)

Source: "Soft data," 1974; based on 180 evaluation forms submitted by 95 clinical centers, 50 physical therapy programs and 11 physical therapy assistant programs

Table 6.4
AREAS OF PERFORMANCE OF THE CLINICAL INSTRUCTOR TO BE EVALUATED BY OTHER CLINICAL STAFF MEMBERS

Educational Areas Only

Areas of performance

- Clinical education
  - Coordination of clinical education programs (supervising and directing student affiliations, making outlines of subjects to teach students, etc.)
  - Assignment of patients for student treatment
  - Supervision of students (guidance and assistance)
  - Communication with appropriate people about student's performance
  - Stimulation received from working with students
- Patient education
- Family education
- Participation in inservice education programs as an instructor

---

Source: "Soft data," 1974; based on 38 forms submitted by 33 clinical centers

Chapter 7

FUTURE CONSIDERATIONS FOR CLINICAL EDUCATION

During the course of the Project on Clinical Education in Physical Therapy, the project staff and task force members identified topical areas and approaches not included in the scope of work of the contract. Some ideas were in fact activated by the Project and led to the annotated bibliography (163) and topical coverage of the process of clinical education (Chapter 5). Other ideas are logical extensions of Project content and follow-up of the conclusions and recommendations set forth in Chapter 2. The purpose of the present chapter is to present a brief listing of future considerations for the interest of prospective researchers, project directors, graduate students, educational administrators, inservice education directors, and decision-makers of all kinds who are concerned with the interface of education and service in the health fields.

Some of the items noted in the following pages reflect content possibilities for graduate education and continuing education; some are suggestions for the development of techniques and devices; some are ideas for future research and development; and some are the subject matter of future projects. The items are grouped under four interrelated focal points: social, educational, evaluational, and organizational.

SOCIAL FOCAL POINTS

1. There should be studies to demonstrate and document the health care needs for physical therapy services for selected population groups. Examples of such groups are children (preschool and school age), the mentally retarded, and the elderly (in retirement homes and in day care centers).

2. There should be studies to explore the opportunities for physical therapy education and service made possible by recent legislation (e.g., special care services to the preschool and school-age child).

3. There should be studies to identify the elements of job satisfaction for physical therapists and physical therapist assistants, in various locales and in a variety of employment situations.

4. There should be studies to determine factors influencing the choice of location and type of employment of previously inactive physical therapists and physical therapist assistants who are returning to work.

5. There should be studies on the magnitude of and the causes for attrition from the work force of physical therapists and physical therapist assistants.

EDUCATIONAL FOCAL POINTS

1. There should be preparation of physical therapy educators and clinicians on topics associated with organization and administration of physical therapy services and physical therapy educational programs, including but not limited to:

    a. Preparation and function of tables of organization and the implications of line and staff relationships.

    b. Preparation, writing, and function of annual and monthly departmental reports, both descriptive and statistical.

    c. Preparation of job descriptions and job specifications and their impact on performance and evaluation.

2. There should be attention to ways of developing ethical conduct in staff and students; there should be measures for auditing such performance.

3. There should be an exploration of certain statements that "students are not prepared" or "students are ill prepared" in order to determine the reasons for and the implications of these observations. This issue was encountered by the Project. In an earlier paper (160) there is documentation that student preparation has been a source of dissatisfaction by staff in centers.

4. There should be studies of the distribution of time and effort of the students involved in selected clinical education assignments and of the clinical faculty who function in clinical education settings; activities studied should include patient care, administration, inservice education, independent study, special projects, rounds, and conferences.

5. There should be studies of the internal design of clinical education assignments at selected sites in order to determine the nature of the learning experiences available and utilized.

6. There should be further studies of the characteristics of clinical faculty members as they relate to student learning, staff performance, and patient care services.

7. There should be further analysis of available data in order to identify the similarities and differences in physical therapist and physical therapist assistant clinical education and clinical faculty.

EVALUATIONAL FOCAL POINTS

1. There should be studies on the nature and content of the evaluations emanating from selected clinical education sites in order to identify unique characteristics, if they exist, of specific institutions. Such studies might contrast the type and nature of the evaluations on

similar students, or groups of students, from one clinical education site to another.

2. There should be studies that look at the nature of evaluations of students emanating from selected clinical instructors at clinical education sites in order to understand more about the characteristics of the rater in the evaluation process.

3. There should be longitudinal studies on the changes in student performance from the first clinical education assignment to the last, utilizing the results of evaluation techniques and devices.

4. There should be studies that contrast the performance evaluation of physical therapy educational program graduates, from one to five years after graduation, with their performance as students. These evaluation studies should include analysis of individuals and their performance as well as groups of students.

5. There should be guidelines, techniques, and devices for evaluating the characteristics and effectiveness of specific learning experiences.

6. There should be guidelines, techniques, and devices for the evaluation of clinical faculty performance.

7. There should be guidelines, techniques, and devices for student self-evaluation for use in varying types of clinical education assignments.

8. There should be evaluation devices for use by the student in evaluating the clinical education experience. An example of one draft form, based on the Standards for a Clinical Education Site in Physical Therapy is included in Appendix B of this report (page B-67).

9. There should be pretesting of the Standards for a Clinical Education Site in Physical Therapy (Appendix B) for possible modification. Then they should be considered for inclusion in the essentials for acceptable education programs in physical therapy. (014)

ORGANIZATIONAL FOCAL POINTS

1. There should be follow-up of the Project on Clinical Education in Physical Therapy. One direction would be utilizing the information obtained by the Project, some of which is included in this report, to explore the possibility of developing a formula, or formulas, for assigning students to a clinical education site. Such a formula might be based on such factors as staff complement, nature and number of referrals, daily patient load, monthly patient load, nature of the services rendered, length of the treatment program, length of the treatment day, and number of days of the week for service.

2. There should be more specific contrasts of the content of this report with that available in the study of basic physical therapy education directed by Catherine A. Worthingham in the 1960s. (244) Among the

topics of interest to educators and clinicians alike would be studies of staff changes, space and equipment utilization, nature of the physician referral services, and characteristics of staff in the clinical environment.

3. There should be studies to explore the strengths and weaknesses of physical therapy services in clinical centers not currently affiliated with educational programs; they may have considerable potential as clinical education sites.

4. There should be studies of physical therapy services in agencies or institutions which no longer affiliate with educational programs for clinical education in order to identify the reasons for discontinuance of the affiliation, changes which might have taken place, and the current status of these services.

5. There should be documentation of mechanisms for developing new clinical education sites; experimental pilot projects should be conducted of possible alternative approaches to the development of needed sites.

Appendix A

LIST OF REFERENCES

INTRODUCTORY NOTE

This list of references is arranged alphabetically by author and the entries are numbered sequentially. Numbers in parentheses in script type throughout this report refer to this list--with single exception of Appendix B, which is a self-contained unit and has its own list of references on page B-23. It is hoped that the list on the following pages may not only document the source materials but also serve as a helpful reading list.

001. Adams, William R., et al. "Research in Self-Education for Clinical Teachers." *Journal of Medical Education*, 49 (December 1974), 1166-73.

002. Allen, Virginia O. *Community College Nursing Education*. New York: John Wiley and Sons, Inc., 1971.

003. Allis, John B. "Orientation of Consultant Physical Therapists to Public Health Practice." *Physical Therapy*, 45 (January 1965), 57-60.

004. American Association of Junior Colleges. *Extending Campus Resources: Guide to Using and Selecting Clinical Facilities for Health Technology Programs*. Washington, D.C.: American Association of Junior Colleges, 1968.

005. American Hospital Association. "Statement on Role and Responsibilities of the Hospital in Providing Clinical Facilities for a Collaborative Educational Program in the Health Field." Chicago, Ill.: American Hospital Association, 1967.

006. American Medical Association, Council on Medical Education. *Self-Analysis Outline for Allied Health Education Programs*. Chicago, Ill.: American Medical Association, October 1973. (Mimeographed.)

007. American Occupational Therapy Association, Committee on Basic Professional Education. "Standards and Guidelines for an Occupational Therapy Affiliation Program." *American Journal of Occupational Therapy*, 25 (September 1971), 314-16.

008. American Physical Therapy Association. *Guidelines for Physical Therapist Assistant Programs*. Washington, D.C.: APTA, n.d.

009. _________. *Handbook of Information Concerning Interim Approval of an Educational Program for the Physical Therapist Assistant*. Washington, D.C.: APTA, 1974. (Mimeographed.)

010. _________. "Process Guidelines: Suggested Components of Programs of Basic Professional Education in Physical Therapy." APTA, 1156 15th Street, N.W., Washington, D.C., 1971. (Mimeographed.)

011. _________. "Standards for Basic Education in Physical Therapy, Adopted by the Board of Directors of the APTA, June 1971." *Physical Therapy*, 52 (May 1972), 521-25.

012. _________. "Standards for Physical Therapy Services, Adopted by the Board of Directors, February 1971." *Physical Therapy*, 51 (December 1971), 1315-18.

013. _________. "Standards for the Physical Therapy Practitioner, Adopted by the Board of Directors, February 1972." *Physical Therapy*, 52 (June 1972), 647-49.

014. _________. *Surveyor's Handbook of Information Concerning the On-Site Evaluation of an Educational Program for the Physical Therapist*. Washington, D.C.: APTA, 1974.

015. American Physical Therapy Association, Committee on Basic Education. Education for Physical Therapy, 5th ed. Washington, D.C.: APTA, April 1974.

016. American Physical Therapy Association, Office of Vocational Rehabilitation. Clinical Education for Physical Therapy. Proceedings of the Annual Institute. Norman, Okla., April 16-21, 1961. New York: APTA, 1961.

017. American Physical Therapy Association, Vocational Rehabilitation Administration. Evaluation in Physical Therapy Education. Proceedings of the Annual Institute. Bloomington, Ind., March 17-22, 1963. New York: APTA, 1963.

018. __________. Implementation of the Evaluation Process in Physical Therapy Education. Proceedings of the Annual Institute. Lincoln, Neb., May 8-12, 1967. New York: APTA, 1967.

019. __________. Learning Experiences in Physical Therapy Education. Proceedings of the Annual Institute. Norman, Okla., April 18-22, 1966. New York: APTA, 1966.

020. __________. Measurement Devices in Physical Therapy Education. Edited by Kathryn Shaffer. Proceedings of the Annual Institute. Chicago, Ill., April 12-17, 1964. New York: APTA, 1964.

021. __________. Measuring Student Performance in Physical Therapy Education. Proceedings of the Annual Institute. Lincoln, Neb., March 28-April 2, 1965. New York: APTA, 1965.

022. American Psychological Association. Standards for Educational & Psychological Tests. Washington, D.C.: American Psychological Association, 1974.

023. American Public Health Association, Committee on Professional Education. "Educational Qualifications of Physical Therapists in Public Health Agencies." American Journal of Public Health, 56 (February 1966), 322-27.

024. Anderson, J.; Gale, Janet; and Tomlinson, R. W. S. "Training of Medical Teachers." Lancet, 2 (September 7, 1974), 566-68.

025. Anderson, N. A., et al. "Teaching Health Centres." Medical Journal of Australia, 2 (December 2, 1972), 1312-16.

026. "Area Health Education Centers in North Carolina." The University of North Carolina at Chapel Hill, July 1, 1973.

027. Association for Student Teaching. "The College Supervisor: Standards for Selection and Function." National Education Association, Washington, D.C., 1968. (Library of Congress Catalog No. 68-29666.)

028. Bamford, Joseph C., et al. "A Project to Improve Faculty Performance and Enhance Student Learning." Journal of Medical Education, 45 (September 1970), 709-10.

029. Barbee, Robert A.; Feldman, Sol; and Chosy, Louis W. "The Quantitative Evaluation of Student Performance in the Medical Interview." Journal of Medical Education, 42 (March 1967), 238-43.

030. Barham, V. Z. "Identifying Effective Behavior of the Nursing Instructor Through Critical Incidents." Nursing Research, 14 (Winter 1965), 65-69.

031. Barr, Jean S. "A Problem-Solving Curriculum Design in Physical Therapy." Unpublished Ph.D. dissertation, University of North Carolina at Chapel Hill, 1975.

032. Barro, Arlene R. "Survey and Evaluation of Approaches to Physician Performance Measurement." Journal of Medical Education, 48 (supplement 1973), 1051-93.

033. Barrows, H. S. Problem-Based Learning in Medicine: Rationale and Methods. Education Monograph 4, Faculty of Medicine, McMaster University, Ontario, Canada, 1973.

034. Bassett, Glenn, and Meyer, Herbert. "Performance Appraisal Based on Self-Review." Personnel Psychology, 21 (Winter 1968), 421-30.

035. Becker, Howard S.; Geer, Blanche; and Hughes, Everett C. Making the Grade: The Academic Side of College Life. New York: John Wiley and Sons, Inc., 1968.

036. Becker, Howard S.; Geer, Blanche; Hughes, Everett C.; and Strauss, Anselm L. Boys in White: Student Culture in Medical School. Chicago, Ill.: University of Chicago Press, 1961.

037. Bender, Robert M. "Attitudes Toward Grading Systems Used in Medical Education." Journal of Medical Education, 44 (November 1969), 1076-81.

038. Biglow, Laura Anne. "Regional Planning for New Educational Programs--A Must!" n.d. Available from American Medical Record Association, Academic Division, John Hancock Center, 875 N. Michigan Avenue, Chicago, Ill. 60611.

039. Bing, Robert K. "Requisites for Relevance: Changing Concepts in Occupational Therapy." Annals of the New York Academy of Sciences, 166 (December 31, 1969), 1020-26.

040. Blood, Helen. "Developing Community Health Content in Physical Therapy Curriculum." Physical Therapy, 50 (June 1970), 1226-38.

041. __________. "Supportive Personnel in the Health-care System." Physical Therapy, 50 (February 1970), 173-80.

042. Bloom, Benjamin S. "Learning for Mastery." Evaluation Comment, 1 (May 1968), 1-12.

043. Bohannan, H. M., et al. "The Flexible Dental Curriculum." Journal of the American Dental Association, 84 (January 1972), 112-24.

044. Brown, Amy Frances. *Curriculum Development*. Philadelphia, Pa.: W. B. Saunders Co., 1960.

045. Brown, Clement R., and Uhl, Henry S. M. "Mandatory Continuing Education: Sense or Nonsense?" *Journal of the American Medical Association*, 213 (September 7, 1970), 1660-68.

046. Burke, Ronald J., and Goodale, James G. "New Way to Rate Nurse Performance." *Hospitals*, 47 (December 16, 1973), 62-68.

047. Busby, Daniel D.; Leming, James C.; and Olson, Merlin I. "Unidentified Educational Costs in a University Teaching Hospital: An Initial Study." *Journal of Medical Education*, 47 (April 1972), 243-53.

048. Butler, Helen F. "Education for the Professions: Student Role Stress." *American Journal of Occupational Therapy*, 26 (November-December 1972), 399-404.

049. Cady, John F., and Anderson, Carl T. "The Preceptorship in Allied Health Education: Short-Term Results of a Program to Influence the Distribution of Allied Health Manpower." *Journal of Allied Health*, 3 (Winter 1974), 34-39.

050. Callahan, Mary E.; Decker, Ruby; Hirt, Susanne; and Tappan, Frances, eds. *Physical Therapy Education: Theory and Practice*. Washington, D.C.: Council of Physical Therapy School Directors, APTA, 1968.

051. Canfield, Albert A., ed. *Competencies for Allied Health Instructors*. Gainesville, Fla.: Center for Allied Health Instructional Personnel, University of Florida, 1972.

052. Carlin, Eleanor J. "Physical Therapy Educators' Response to a Physical Therapy Internship in Public Health." *American Physical Therapy Association, Public Health Section Newsletter*, 5, No. 2, 1971, pp. 4-5.

053. Carnegie Commission on Higher Education. *Higher Education and the Nation's Health: Policies for Medical and Dental Education*. New York: McGraw-Hill Book Co., 1970.

054. Carroll, Augustus J. "Medical Education Costs in Hospitals." Report of the Second Administrative Institute: Medical School-Teaching Hospital Relations. Edited by George A. Wolf, Ray E. Brown, and Robert M. Bucher. *Journal of Medical Education*, 40 (November 1965), 137-47.

055. ________. *Program Cost Estimating in a Teaching Hospital: A Pilot Study*. Edited by Thomas J. Campbell and Mary H. Littlemeyer. Washington, D.C.: Association of American Medical Colleges, 1969.

056. ________. *A Study of Medical College Costs*. Evanston, Ill.: Association of American Medical Colleges, 1958.

057. Centra, John A. "Self-Ratings of College Teachers: A Comparison with Student Ratings." *Journal of Educational Measurement*, 10 (Winter 1973), 287-94.

058. Cline, Marvin G. "A Film Test of Clinical Skills in Medical Students." *Journal of Medical Education*, 36 (August 1961), 908-13.

059. Clissold, Grace K. *How to Function Effectively as a Teacher in the Clinical Area: A Resource Unit*. New York: Springer, 1962.

060. Cochran, Thelma C., and Hansen, Paul J. "Developing an Evaluation Tool by Group Action." *American Journal of Nursing*, 62 (March 1962), 94-97.

061. Cohen, Arthur M., and Brawer, Florence B. *Measuring Faculty Performance*. Washington, D.C.: American Association of Junior Colleges, ERIC Clearinghouse for Junior College Information, 1969.

062. Commonwealth Fund. *Trends in Medical Education*. New York: The Commonwealth Fund, 1949.

063. Cooper, James K.; Heald, Karen; and Samuels, Michael. "The Decision for Rural Practice." *Journal of Medical Education*, 47 (December 1972), 939-43.

064. Coppola, Edward, and Gonnella, Joseph A. "Nondirective Approach to Clinical Instruction in Medical School." *Journal of the American Medical Association*, 205 (August 12, 1968), 487-91.

065. Cosh, Patricia. "The Demands of Modern Physical Therapy on Physical Therapy Curricula." *Progress in Physical Therapy*, 1 (No. 3, 1970), 249-53.

066. Council of Physical Therapy School Directors. *Community Health Aspects of Physical Therapy Education*. Edited by Nancy Laszlo, Lydia Holley, and Barbara White. Proceedings of the Annual Institute. Chapel Hill, N.C., October 28-November 1, 1968.

067. __________. *Development of Objectives in Physical Therapy Education*. Proceedings of the Annual Institute. Chapel Hill, N.C., November 14-17, 1960.

068. __________. *Development of Objectives, Learning Experiences, and Evaluation Procedures for Courses in Physical Therapy*. Proceedings of the Annual Institute. Madison, Wis., November 6-10, 1961.

069. __________. *Guidelines for Developing an Educational Program of Excellence in Physical Therapy: Curriculum*. Proceedings of the Annual Institute. Pittsburgh, Pa., November 1-5, 1965.

070. __________. *Principles and Practices of Evaluation and Publication*. Proceedings of the Annual Institute. Philadelphia, Pa., November 12-16, 1962.

071. __________. *Response of Professional Education to Social Change*. Proceedings of the Annual Institute. Cleveland, Ohio, October 23-27, 1966.

072. __________. *Toward Excellence in Physical Therapy Education*. Edited by Ruby Decker. Proceedings of the Annual Institute. Bloomington, Ind., October 26-30, 1964.

073. Crocker, Linda, et al. "A Performance Rating Scale for Evaluating Clinical Competence of Occupational Therapy Students." American Journal of Occupational Therapy, 29 (February 1975), 81-86.

074. Davis, Carol M., and McKain, Ann E. "Clinical Education: Awareness of Our 'Not-OK' Behavior." Journal of the American Physical Therapy Association, 55 (May 1975), 505-06.

075. Denson, J. S., and Abrahamson, Stephen. "A Computer-Controlled Patient Simulator." Journal of the American Medical Association, 208 (April 21, 1969), 504-08.

076. Deuschle, Kurt W., and Eberson, Fredrick. "Community Medicine Comes of Age." Journal of Medical Education, 43 (December 1968), 1229-37.

077. Dickinson, Ruth; Dervitz, Hyman L.; and Meida, Helen M. Handbook for Physical Therapy Teachers. New York: APTA, 1967.

078. Dickinson, Ruth; DiMarino, Jean; and Pfitzenmaier, Joan. "A Common Evaluation Instrument." Physical Therapy, 53 (October 1973), 1075-80.

079. Dickinson, Ruth; Freeman, Alice; and Peteet, Jean. What's the Connection? Goals--> Learning Activities--> and Back Again. Washington, D.C.: National Institute of Health, Public Health Service, Department of Health, Education, and Welfare, June 1973.

080. Dimond, E. Grey. "National Resources for Continuing Medical Education." Journal of the American Medical Association, 206 (October 14, 1968), 617-20.

081. Duncan, Burris, and Kempe, C. Henry. "Joint Education of Medical Students and Allied Health Personnel." American Journal of Diseases of Children, 116 (November 1968), 499-504.

082. Eichenberger, Ralph W., and Gloor, Robert F. "A Team Approach to Learning Community Health." Journal of Medical Education, 44 (August 1969), 655-62.

083. Ellis, Roy G. "Education of Future Health Personnel." Australian Dental Journal, 17 (February 1972), 70-72.

084. Englehart, Helen V. "An Investigation of the Relationship Between College Grades and On-the-Job Performance During Training of Occupational Therapy Students." American Journal of Occupational Therapy, 11 (Part 2, March-April 1957), 97-107.

085. Estes, E. Harvey. "Medical Education and Medical Care in Underserved Rural Areas." Journal of Medical Education, 48 (December 1973), 118-20.

086. Felton, Jean Spencer. "The Clinical Touch in Teaching: Exploring Human Resources." Physical Therapy, 47 (April 1967), 285-88.

087. Field, Michael. "Student Growth and the Clinical Teacher." Journal of Dental Education, 35 (May 1971), 306-07.

088. Fivars, Grace, and Gosnell, Doris. Nursing Evaluation: The Problem and the Process; The Critical Incident Technique. New York: The Macmillan Co., 1966.

089. Flanagan, John C. "The Critical Incident Technique." Psychological Bulletin, 51 (July 1954), 327-58.

090. Flanders, Ned A. "Personal-Social Anxiety as a Factor in Experimental Learning Situations." Journal of Educational Research, 45 (October 1951), 100-10.

091. Freymann, John G., and Springer, John K. "Education and the Hospital: Cost of Hospital-Based Education." Hospitals, 47 (March 1, 1973), pp. 65-67, passim.

092. Frierson, Henry T., Jr. "An Evaluation Report of Physical Therapy Evaluation Forms Related to Clinical Curricula, Facilities, and Student Performance." Unpublished paper, School of Medicine, University of North Carolina at Chapel Hill, 1975.

093. Fruchtl, Martin Mary. "New Curriculum Design in Medical Technology Education." American Journal of Medical Technology, 34 (October 1968), 601-12.

094. Gagné, Robert M. "Educational Technology and the Learning Process." Educational Research, 3 (January 1974), 3-8.

095. Cavinski, Donald J. "Public Health Content in Physical Therapy Schools." American Physical Therapy Association, Public Health Section Newsletter, Spring 1968, pp. 1-3.

096. Goran, Michael J.; Williamson, John W.; and Gonnella, Joseph S. "The Validity of Patient Management Problems." Journal of Medical Education, 48 (February 1973), 171-77.

097. Greben, Stanley E.; Markson, Elliott R.; Sadavoy, Joel. "Resident and Supervisor: An Examination of Their Relationship." Canadian Psychiatric Association Journal, 18 (December 1973), 473-79.

098. Grossman, Judy. "Community Experience for Students." American Journal of Occupational Therapy, 28 (November-December 1974), 589-91.

099. Guilford, Joy Paul. Psychometric Methods, 2nd ed. New York: McGraw-Hill Book Co. 1954.

100. Hawthorne, Mary E., and Perry, J. Warren. Community Colleges and Primary Health Care: Study of Allied Health Education (SAHE) Report. Washington, D.C.: American Association of Community and Junior Colleges, 1974.

101. Hazard, William R. The Tutorial and Clinical Program of Teacher Education; A Study of Teacher Education, in Cooperation with the Carnegie Corporation of New York. Evanston, Ill.: Northwestern University Press, 1967.

102. Heap, Mildred F. "The Need for Effective Selection of Personnel in Physical Therapy Departments." *Physical Therapy*, 49 (January 1969), 7-14.

103. Helfer, Ray E. "Peer Evaluation: Its Potential Usefulness in Medical Education." *British Journal of Medical Education*, 6 (September 1972), 224-31.

104. Hendee, William R. "A Collaborative Program in Allied Health Training." *Journal of Medical Education*, 46 (August 1971), 658-65.

105. Herbert, John, and Attridge, Carol. "A Guide for Developers and Users of Observation Systems and Manuals." *American Education Research Journal*, 12 (Winter 1975), 1-20.

106. Herzberg, Frederick; Inkley, Scott; and Adams, William R. "Some Effects on the Clinical Faculty of a Critical Incident Study of the Performance of Students." *Journal of Medical Education*, 35 (July 1960), 666-74.

107. Hess, Joseph W. "A Comparison of Methods for Evaluating Medical Student Skill in Relating to Patients." *Journal of Medical Education*, 44 (October 1969), 934-38.

108. Hicks, E. Perry. "Changing the Role of the Cooperating Teacher." *Journal of Teacher Education*, 20 (Summer 1969), 153-57.

109. Hilles, William C. "Program Cost Allocation and the Validation of Faculty Activity Involvement." *Journal of Medical Education*, 48 (September 1973), 805-13.

110. Holcomb, J. David, and Garner, Arthur E. *Improving Teaching in Medical Schools*. Springfield, Ill.: Charles C. Thomas, 1973.

111. Holding, D. H. *Principles of Training*. Oxford: Pergamon Press, 1965.

112. Holley, Lydia S. "A Component of Physical Therapy Education." *Physical Therapy*, 44 (January 1964), 23-25.

113. Hospital Research and Educational Trust. *Training and Continuing Education: A Handbook for Health Care Institutions*. Chicago, Ill.: Hospital Research and Educational Trust, 1970.

114. Hullinger, Ronald L.; Moon, Charles E.; and Render, Gary F. "Evaluation in Support of Learning." *British Journal of Medical Education*, 7 (September 1973), 182-85.

115. Hutchins, Edwin B. *The Evaluation of Environmental Determinants*. Paper presented at the American Psychological Association meeting in St. Louis, September 3, 1962. Office of Basic Research, Technical Report No. L261. Evanston, Ill.: Division of Education, Association of American Medical Colleges, 1962.

116. Hutchins, Edwin B., and Wolins, Leroy. Factor Analysis of Statements Describing Student Environment in American Medical Colleges. Paper presented at meeting of Midwestern Psychological Association. Office of Basic Research, Technical Report No. L631. Evanston, Ill.: Division of Education, Association of American Medical Colleges, 1963.

117. Indiana University. "Cost of Clinical Education of Physical Therapy Students." (Mimeographed.)

118. Jacobson, Barbara. "Role Modeling in Physical Therapy." Physical Therapy, 54 (March 1974), 244-50.

119. ________. "Role Modeling in Physical Therapy." Unpublished master's thesis, Sargent College of Allied Health Professions, Boston University, 1972.

120. Jacobson, Margaret Davis. "Effective and Ineffective Behavior of Teachers of Nursing as Determined by their Students." Nursing Research, 15 (Summer 1966), 218-24.

121. James, James J., and Stuart, Richard B. "Expanded Role for the Physical Therapist." Physical Therapy, 55 (February 1975), 121-31.

122. Joint Review Committee on Education in Radiologic Technology. "JRC Profile of Education in Radiologic Technology." Materials available from the Joint Review Committee on Education, Suite 1801, 307 N. Michigan Avenue, Chicago, Ill. 60601.

123. Kelly, E. Lowell. Assessment of Human Characteristics. Belmont, Calif.: Brooks/Cole Publishing Co. (a division of Wadsworth Publishing Co.), 1967.

124. Kennell, John H.; Tempico, Caroline R.; and Wile, Marcia Z. "Self-Evaluation by First-Year Medical Students in a Clinical Science Programme." British Journal of Medical Education, 7 (December 1973), 230-38.

125. King, Thomas C., et al. "Research in Undergraduate Surgical Education: Innovation and Evaluation." Journal of Medical Education, 43 (March 1968), Special Issue, 373-82.

126. Knowles, John H., ed. The Teaching Hospital. Cambridge, Mass.: Harvard University Press, 1966.

127. Koehler, John E., and Slighton, Robert L. "Activity Analysis and Cost Analysis in Medical Schools." Journal of Medical Education, 48 (June 1973), 531-50.

128. Kopta, Joseph A. "An Approach to the Evaluation of Operative Skills." Surgery, 70 (August 1971), 297-302.

129. Kubany, Albert J. "Use of Sociometric Peer Nominations in Medical Education Research." Journal of Applied Psychology, 41 (December 1957), 389-94.

130. Kubo, Winifred; Chase, Lida; and Leton, Jane. "A Creative Examination." *Nursing Outlook*, 19 (August 1971), 524-26.

131. Lamont, Campbell T., and Hennen, Brian K. E. "The Use of Simulated Patients in a Certification Exam in Family Medicine." *Journal of Medical Education*, 47 (October 1972), 789-95.

132. Langsley, Donald G., and Aycrigg, John B. "Filmed Interviews for Testing Clinical Skills." *Journal of Medical Education*, 45 (January 1970), 52-58.

133. Levine, Harold G., and McGuire, Christine H. "The Use of Role-Playing to Evaluate Affective Skills in Medicine." *Journal of Medical Education*, 45 (September 1970), 700-05.

134. Light, Israel, and Frey, Don C. "Education and the Hospital: Dual Responsibility for Allied Manpower Training." *Hospitals*, 47 (March 1, 1973), 85-88.

135. Little, Dolores, and Carnevali, Doris. "Complexities of Teaching in the Clinical Laboratory." *Journal of Nursing Education*, 11 (January 1972), 15-22.

136. Logan, Nelson S., and Taft, Thomas B. "Perspectives on Evaluation Techniques: Making the Grade." *Journal of Dental Education*, 37 (April 1973), 10-13.

137. MacGraw, R. M., et al. "Perspectives from New Schools--The Costs and Financing of Medical Education." *New England Journal of Medicine*, 289 (September 13, 1973), 558-62.

138. Madison, Donald. "The Student Health Project: A New Approach to Education in Community Medicine." *Milbank Memorial Fund Quarterly*, 46 (July 1968), 389-408.

139. Mager, Robert F. *Preparing Instructional Objectives*. Belmont, Calif.: Fearon Publishers, 1962.

140. Marchesini, Erika H. "From Head Nurse to Supervisor." *Nursing Outlook*, 11 (June 1963), 421-24.

141. Margolis, Carmi Z.; Sheehan, T. Joseph; and Stickley, William T. "A Graded Problem-Oriented Record to Evaluate Clinical Performance." *Pediatrics*, 51 (June 1973), 980-85.

142. Marshall, Minna H. "Inservice Programs Require Effective Follow-Up." *Nursing Outlook*, 12 (August 1964), 42-44.

143. Marshall, V. R., and Ludbrook, J. "The Relative Importance of Patient and Examiner Variability in a Test of Clinical Skills." *British Journal of Medical Education*, 6 (September 1972), 212-17.

144. Maslow, Abraham. *Motivation and Personality*. New York: Harper and Row, 1970.

145. May, Bella J., ed. Performance Evaluation: Proceedings of a Training Institute. Sponsored by the Department of Physical Therapy and the Department of Occupational Therapy, Medical College of Georgia; supported by Grant Number 1A13 AH00129-01, Division of Allied Health Manpower, Department of Health, Education, and Welfare; October 16-19, 1973.

146. Mayville, William V. "The Trouble with Grading Is." ERIC (Educational Resources Information Center) Higher Education Research Currents, October 1975.

147. McCarthy, William H., and King, Thomas C. "Evaluating Patterns of Surgical Clerkship Programs." Journal of Medical Education, 43 (March 1968), Special Issue, 367-71.

148. McDaniel, Lucy V. "The Critical Incident Method in Evaluation." Journal of the American Physical Therapy Association, 44 (April 1964), 235-42.

149. McGlothlin, William J. Patterns of Professional Education. New York: G. P. Putnam and Sons, 1960.

150. McGuire, Christine H., and Solomon, Lawrence M., eds. Clinical Simulations: Selected Problems in Patient Management. New York: Appleton-Century-Crofts, 1971.

151. McTernan, Edmund J., and Hawkins, Robert O., Jr., eds. Educating Personnel for the Allied Health Professions and Services. St. Louis, Mo.: The C. V. Mosby Company, 1972.

152. Menges, Robert J. "Assessing Readiness for Professional Practice." Review of Educational Research, 45 (Spring 1975), 173-207.

153. Michels, Eugene. "On Not Turning Out Physical Therapists: A Critical Issue for Education in Physical Therapy." Physical Therapy, 52 (December 1972), 1292-96.

154. Miller, George E., et al. Teaching and Learning in Medical School. Cambridge, Mass.: Harvard University Press, 1961.

155. Miller, Harry L. Teaching and Learning in Adult Education. New York: Macmillan Co., 1964.

156. Miller, Wallace E. "Application of Adult Learning Procedures to an Orthopedic Problem: Major Objective-Developing Competency in Orthopedics." Southern Medical Journal, 67 (March 1974), 319-27.

157. Moore, Margaret L. "Clinical Education in Physical Therapy Education--Special Reference to Nursing Education and Professional Education." Unpublished paper, 1969.

158. __________. "Health Occupations: The Junior College." Unpublished paper, 1969.

159. __________. "Interinstitutional Agreements for Clinical Education in Physical Therapy." Unpublished Ed.D. dissertation, Duke University, 1971.

160. Moore, Margaret L., and Parker, Mabel M. "Experience with Written Agreements for Clinical Education." Proceedings of the World Confederation for Physical Therapy, Seventh International Congress, Montreal, Canada, June 1974. London: World Confederation for Physical Therapy.

161. ________. "Public Health in Physical Therapy Education." Journal of the American Physical Therapy Association, 42 (September 1962), 570-73.

162. Moore, Margaret L.; Parker, Mabel M.; and Nourse, E. Shepley. Form and Function of Written Agreements in the Clinical Education of Health Professionals. Thorofare, N.J.: Charles B. Slack, Inc., 1972.

163. Moore, Margaret L.; Perry, Jan W.; and Clark, Ann W., eds. Clinical Education in the Health Professions: An Annotated Bibliography. Washington, D.C.: American Physical Therapy Association, 1976.

164. Moran, Linda F. "Measurement of Partial Costs of Clinical Education." Unpublished master's thesis, Boston University, 1974.

165. Mortimer, Kenneth P. Accountability in Higher Education. Washington, D.C.: American Association for Higher Education, 1972.

166. Murphee, Alice H.; Banks, Sam A.; and Reynolds, Richard C. "The Community Health Clerkship: Profile of a Program." Journal of Medical Education, 47 (December 1972), 925-30.

167. Musser, Marc J. "A Public-Private Consortium: Health Care Delivery." Hospitals, 47 (August 16, 1973), 35-37.

168. National Academy of Sciences, Institute of Medicine. Costs of Education in the Health Professions: Report of a Study, Parts I and II. Washington, D.C.: National Academy of Sciences, 1974.

169. National League for Nursing. Evaluation: The Whys and the Ways. Report of the 1964 Regional Workshops of the Council of Member Agencies of the Department of Diploma and Associate Degree Programs. New York: National League for Nursing, Department of Diploma and Associate Degree Programs, 1965. (NLN pub. no. 16-1172.)

170. National League for Nursing, Council of Baccalaureate and Higher Degree Programs. "Arrangements Between an Institution of Higher Education and Agencies Which Provide Learning Laboratories for Nursing Education." New York: National League for Nursing, 1973.

171. Nelson, Charlene. "Evaluation of a Physical Therapy Curriculum: A Method." Physical Therapy, 51 (December 1971), 1307-13.

172. Nethery, Joan C. "Clinical Education--A Proposal for Change." Proceedings of the World Confederation for Physical Therapy, Seventh International Congress, Montreal, Canada, June 1974. London: World Confederation for Physical Therapy.

173. North Carolina State Examining Committee of Physical Therapy. Report of the Committee, January 1976.

174. Palmer, Mary Ellen. *Self-Evaluation of Nursing Performance Based on Clinical Practice Objectives*. Boston, Mass.: Boston University Press, 1962.

175. Parker, Ralph C., Jr.; Rix, Richard A.; and Tuxhill, Thomas G. "Social, Economic, and Demographic Factors Affecting Physician Population in Upstate New York." *New York State Journal of Medicine*, 69 (March 1, 1969), 706-12.

176. Parrish, Henry M. "A Critique of the Hardin Committee Report on Health Sciences Education in South Dakota." *South Dakota Journal of Medicine*, 24 (November 1971), 29-34.

177. Pascasio, Anne. "Education for the Physical Therapist of the Future." Unpublished Ph.D. dissertation, University of Pittsburgh, 1966, *Dissertation Abstracts* 27, 3348-A.

178. Patton, Frances L. "Physical Therapy Education--Who Pays?--Patient--School--Student?" Department of Hospitals, University of Southern California Medical Center, August 1973. (Mimeographed.)

179. Payne, David A. "A Perspective on Educational Assessment." *The Assessment of Learning: Cognitive and Affective*. Lexington, Mass.: D. C. Heath and Co., 1974.

180. Pellegrino, Edmund D. "Regionalization: An Integrated Effort of Medical School, Community and Practicing Physician." *Bulletin of the New York Academy of Medicine*, 42 (December 1966), 1193-1200.

181. __________. "The Regionalization of Academic Medicine: The Metamorphosis of a Concept." *Journal of Medical Education*, 48 (February 1973), 119-33.

182. Peterson, Osler, et al. "An Analytical Study of North Carolina General Practice, 1953-1954." *Journal of Medical Education*, 31 (December 1956), Part 2.

183. Phillips, Donald F. "Laboratory for Medical Education." *Hospitals*, 47 (March 1, 1973), 77-82.

184. Physical Therapy Clinical Faculty Institute. *Community Health Aspects of Physical Therapy*. Edited by Adelaide L. McGarrett and Kathryn Shaffer. Proceedings of the 1971 Physical Therapy Clinical Faculty Institute at Boston-Bouvé College of Allied Health Professions, Boston University.

185. Pinkston, Dorothy; Hockhauser, Sandra L.; and Gardner-O'Laughlin, Karen. "Standards for Basic Education in Physical Therapy: A Tool for Planning Clinical Education." *Physical Therapy*, 55 (August 1975), 841-49.

186. Pohl, Margaret L. *The Teaching Function of the Nursing Practitioner*, 2nd ed. Dubuque, Iowa: W. M. C. Brown Co., 1973.

187. Ramsden, Elsa L., and Dervitz, Hyman L. "Clinical Education: Interpersonal Foundations." *Physical Therapy*, 52 (October 1972), 1060-66.

188. Ramsey, William R. "Role of the Agency Supervisor." *Implementing Field Experience Education*. Edited by John Duley. New Directions for Higher Education, No. 6, Summer 1974. San Francisco, Calif.: Jossey-Bass, Inc., Publishers.

189. Ritvo, Miriam M. "Human Relations Training for Supervisory Personnel in Hospitals." *Nursing Forum*, 2 (No. 3, 1963), 98-112.

190. Robinson, Sereta. "Clinical Inference in Medical Education: A Look at Teaching and Evaluating Problem-Solving Skills." Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C., April 1, 1975.

191. Rode, Edward A. "Shared Training Becomes a Reality." *Hospitals*, 47 (March 1, 1973), 149-55 passim.

192. Samuels, Michael E. "Factors Influencing Primary Care Physicians to Select Non-Metropolitan Locations." Unpublished Ph.D. dissertation, School of Public Health, Department of Health Administration, University of North Carolina at Chapel Hill, 1974.

193. Saylor, J. Galen, and Alexander, William M. *Planning Curriculum for Schools*. New York: Holt, Rinehart and Winston, 1974.

194. Schweer, Jean. *Creative Teaching in Clinical Nursing*. St. Louis, Mo.: C. V. Mosby Company, 1968.

195. Scott, Geraldine L., and Robbins, Sandra T. "III. A Dietetic Traineeship by Consortium Effort." *Journal of the American Dietetic Association*, 64 (May 1974), 515-17.

196. Scott, Hugh M., and Sniderman, Allan. "Evaluation of Clinical Competence Through a Study of Patient Records." *Journal of Medical Education*, 48 (September 1973), 832-39.

197. Scriven, Michael. "The Methodology of Evaluation." *Perspectives of Curriculum Evaluation*. Edited by Ralph Tyler, Robert Gagné, and Michael Scriven. AERA Monograph Series on Curriculum Evaluation, Number 1. Chicago, Ill.: Rand McNally and Co., 1967.

198. Scully, Rosemary M. "Clinical Teaching of Physical Therapy Students in Clinical Education." Unpublished Ed.D. dissertation, Columbia University, 1974.

199. __________. "The Role of the Coordinator of Clinical Education." *Section on Education, Newsletter, American Physical Therapy Association*, Spring 1966, pp. 44-47.

200. Shapiro, Alvin P., et al. "The Impact of Curricular Change on Performance on National Board Examinations." *Journal of Medical Education*, 49 (December 1974), 1113-18.

201. Sheehan, T. Joseph. "Medical School Climate: Comparative Faculty and Student Views." *Journal of Medical Education*, 45 (November 1970), 880-87.

202. Shepard, Katherine F. "Family Focus." American Journal of Public Health, 65 (January 1975), 63-65.

203. Sheps, Cecil G., et al. Medical Schools and Hospitals: Interdependence for Education and Service. Journal of Medical Education, 40 (September 1965), Part 2.

204. Sidel, Victor W. "Can Physicians Be Attracted to Ghetto Practice?" Medicine in the Ghetto. Edited by John C. Norman. New York: Appleton-Century-Crofts, 1969.

205. "Simulation: A Special Report." AAMC (Association of American Medical Colleges) Education News 2, April 1975.

206. Skipper, James K., Jr.; Mulligan, Jack L.; and Garg, Mohan L. "The Use of Peer Group Review in a Community and Family Medicine Clerkship." Journal of Medical Education, 49 (October 1974), 991-93.

207. Spencer, David S., and Connors, Edward J. "These Managers Benefit From Long-Term Training Program." Modern Hospital, 115 (October 1970), 100-02.

208. Sprague, Charles C. "Analysis of Program Costs of Academic Health Centers." Journal of Medical Education, 48 (September 1973), 793-94.

209. __________. "Undergraduate Medical Education: Elements, Objectives, Costs." Journal of Medical Education, 49 (January 1974), 97-128.

210. Stein, Leonard S. "Adult Learning Principles: The Individual Curriculum and Nursing Leadership." Journal of Continuing Education in Nursing, 2 (November-December 1971), 7-13.

211. Stoddart, Greg L. "Effort Reporting and Cost Analysis of Medical Education." Journal of Medical Education, 48 (September 1973), 814-23.

212. Stritter, Frank T., and Bowles, L. Thompson. "The Teacher as Manager: A Strategy for Medical Education." Journal of Medical Education, 47 (February 1972), 93-101.

213. Stritter, Frank T.; Hain, Jack D.; and Grimes, David A. "Clinical Teaching Reexamined." Journal of Medical Education, 50 (September 1975), 876-82.

214. Sullivan, Robert F. "Self-Study." Measurement Devices in Physical Therapy Education. Edited by Kathryn Shaffer. Proceedings of the American Physical Therapy Association - Vocational Rehabilitation Administration Institute, April 1964. New York: APTA, 1964.

215. Tate, Barbara L. Test of a Nursing Performance Evaluation Instrument. New York: National League for Nursing, Research and Studies Service, 1964. (NLN pub. no. 19-1121.)

216. "Technical Level Allied Health Graduate Follow-Up Project." InterStudy, Minneapolis, Minn., n.d. (Mimeographed.)

217. TenBrink, Terry D. Evaluation: A Practical Guide for Teachers. New York: McGraw-Hill Book Co., 1974.

218. Terris, Milton, and Monk, Mary A. "Recent Trends in the Distribution of Physicians in Upstate New York." American Journal of Public Health, 46 (May 1956), 585-91.

219. Tokuhata, George K., et al. "Health Manpower Distribution in Pennsylvania." American Journal of Public Health, 65 (August 1975), 837-48.

220. Trivett, David A. Competency Programs in Higher Education. Educational Resources Information Center (ERIC) Higher Education Research Report No. 7. Washington, D.C.: American Association for Higher Education, 1975.

221. Tyler, Ralph W. Basic Principles of Curriculum and Instruction, Syllabus for Education 305. Chicago, Ill.: University of Chicago Press, 1950.

222. U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Educational Personnel Development. "Learning Environments--OR--Rooms for Thought," by Lawrence M. Stolurow. Chapter vii, How Teachers Make a Difference. Washington, D.C.: Government Printing Office, 1971.

223. U.S. Department of Health, Education, and Welfare, Public Health Service. Proceedings of the Regional Medical Programs National Conference and Workshop on Evaluation, 1970. "An Approach to Evaluation for the Regional Medical Program," by Donald A. Schon. DHEW Publication No. (HSM) 71-7010. Washington, D.C.: Government Printing Office, 1972.

224. U.S. Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration. Area Health Education Centers. DHEW Publication No. (NIH) 73-548. Washington, D.C.: Government Printing Office, May 1973.

225. __________. Fostering the Growing Need to Learn. Rockville, Md.: Division of Regional Medical Programs, Bureau of Health Resources Development, 1974.

226. U.S. Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration, Bureau of Health Resources Development. Trends and Career Changes of College Students in the Health Fields; A Summary Report on a Study Conducted by the American Council on Educational Policy Analysis Service. DHEW Publication No. (HRA) 76-54. Washington, D.C.: Government Printing Office, 1974.

227. University of North Carolina at Chapel Hill, Health Services Research Center. "Nursing Student Utilization of Clinical Experience Settings in North Carolina." Sponsored by the General Administration, The University of North Carolina. Prepared by the Health Services Research Center, The University of North Carolina at Chapel Hill in cooperation with The University of North Carolina Area Health Education Centers Program, February 1975.

228. University of North Carolina at Chapel Hill, School of Medicine, Division of Physical Therapy. The Role of the Physical Therapist and the Training Needs of Those Working in Pediatric Programs. Chapel Hill, N.C., 1970.

229. "University of Washington Faculty Endorses WAMI Program; States Take Over Costs." AAMC (Association of American Medical Colleges) Education News 2, June 1975.

230. Verby, John; Lenarz, Gene; and Garrard, Judy. "Evaluation of an Alternative Clinical Experience: The Minnesota Rural Physician Associate Program." Journal of Medical Education, 49 (July 1974), 696-98.

231. Verner, Coolie, and Davison, Catherine V. Psychological Factors in Adult Learning and Instruction. Florida State University Department of Adult Education, Research Information Processing Center, Tallahassee, Florida, 1971.

232. Voorabchi, Bahman; Olson, Carl J.; and Page, Gordon G. "Relationship between Type of Pediatric Clerkship and Performance on Pediatric Examinations." Journal of Medical Education, 48 (April 1973), 356-65.

233. Wandelt, Mabel A., and Stewart, Doris Slater. Slater Nursing Competencies Rating Scale. New York: Appleton-Century-Crofts, 1975.

234. Warren, Michael D. "The Training of Undergraduates in the Public Health Approach." Public Health, 79 (May 1965), 198-207.

235. Watts, Nancy T. "Estimating the Costs of a Student Affiliation: Costs to the Clinical Facility." Clinical Education Workshop, Massachusetts Chapter of the American Physical Therapy Association, May 1975. (Mimeographed.)

236. Weil, Thomas P., and Parrish, Henry. "Development of a Coordinated Approach for the Training of Allied Health Personnel." Journal of Medical Education, 42 (July 1967), Part 1, 651-59.

237. Weiskotten, Herman G., et al. "Trends in Medical Practice. An Analysis of the Distribution and Characteristics of Medical College Graduates, 1915-1950." Journal of Medical Education, 35 (December 1960), 1071-1121.

238. Wilhelm, Irma J. "Q-Methodology in Rating the Clinical Competency of Physical Therapy Students: A Model." Physical Therapy, 49 (November 1969), 1227-30.

239. Williamson, John W. "Priorities in Patient-Care Research and Continuing Medical Education." Journal of the American Medical Association, 204 (April 22, 1968), 303-08.

240. Williamson, John W., and McGuire, Christine. "Consecutive Case Conference: An Educational Evaluation." Journal of Medical Education, 43 (October 1968), 1068-74.

241. Wing, Paul. "Clinical Costs of Medical Education." Inquiry, 9 (December 1972), 36-44.

242. Wingard, John R., and Williamson, John W. "Grades as Predictors of Physicians' Career Performance: An Evaluative Literature Review." Journal of Medical Education, 48 (April 1973), Part 1, 311-22.

243. Worthingham, Catherine. "Study of Basic Physical Therapy Education: IV. The 1961 and 1965 Graduates of the Physical Therapy Schools." Physical Therapy, 49 (May 1969), 476-99.

244. __________. "Study of Basic Physical Therapy Education: VI. Findings of the Study in Relation to Trends in Patient Care and Education." Physical Therapy, 50 (September 1970), 1315-32.

245. Zacharias, A.; Fisher, L. A.; and Duggan, H. E. "Resident Evaluation . . . Is Your Method Effective?" Journal of the Canadian Association of Radiologists, 24 (March 1973), 12-17.

Appendix B

STANDARDS FOR A CLINICAL EDUCATION SITE
IN PHYSICAL THERAPY

With Rationale for Their Development
and Guidelines for Their Use

Spring 1976

Product of the Project on Clinical Education in Physical Therapy supported by the Division of Associated Health Professions, Bureau of Health Manpower, Health Resources Administration, Public Health Service, Department of Health, Education, and Welfare--Contract NO. 1-AH-44112.

Sponsored by

SECTION FOR EDUCATION
AMERICAN PHYSICAL THERAPY ASSOCIATION
1156 15th Street N.W.
Washington, D.C. 20005

PREFACE

The clinical education aspect of a curriculum in physical therapy is an intrinsic part of the total educational design and is an essential ingredient for any helping profession. Based on sound didactic learning, clinical education should expand the educational horizon of the student and give him/her the opportunity of assimilating didactic or theoretical knowledge with practical application to real-life situations.

The clinical education aspects of the curriculum have changed drastically since the first physical therapy programs were established in this country in the early 1900s. Education during that time was based primarily on an apprenticeship model. Clinical assignments were relatively few, and they were in a restricted number of institutions--some even limited to only one primary center. Although a primary center is still a requirement, as stated in the essentials of the physical therapist(3)* and physical therapist assistant programs,(4) the current pattern is to offer students, at all levels, educational opportunities in a variety of health care centers.

Educational curriculums in physical therapy, since 1936, have been approved by the American Physical Therapy Association in collaboration with the American Medical Association; since 1955 the guidelines utilized have been the Essentials of an Acceptable School of Physical Therapy, as revised December 1955.(1) In June 1974 the House of Delegates of the American Physical Therapy Association adopted the proposed Essentials of an Accredited Educational Program for the Physical Therapist,(3) which varied considerably from the 1955 document of the American Medical Association.(1) Both of these documents appear in the Surveyor's Handbook of Information Concerning the On-Site Evaluation of an Educational Program for the Physical Therapist, prepared by the American Physical Therapy Association, April 1975.(7)

In the June 1974 Essentials are the following statements:

> The physical therapist practices as part of a large and varied team of personnel which includes the physicians and other professional and assistive health specialists, as well as members of the lay community. Inclusion of a particular aspect of practice in the list of objectives does not mean that the new graduate is expected to carry sole responsibility for that phase of care. It does indicate that the new physical therapist frequently participates in this activity and therefore should be prepared to carry out related responsibilities effectively. . . . Within the framework of a single job, even the recent graduate is often called upon to serve not only as a provider of service, but also as an administrator, supervisor, teacher, program planner, and consultant.(3)

The physical therapist assistant program was approved by the House of Delegates of the American Physical Therapy Association in 1966; the first graduates completed their educational program for an associate degree in 1969 under guidelines established by the American Physical Therapy Association. In 1974 a *Handbook of Information Concerning Interim Approval of an Educational Program for the Physical Therapist Assistant* became available from the American Physical Therapy Association.(4) It includes valuable information not only on clinical education but also on the entire education.

---

* Numbers in parentheses refer to the alphabetical list of references at the end of this document (pages B-23 and B-24).

As expressed in the *Handbook*:

> The purpose of the physical therapist assistant program is to prepare assistants who will contribute to physical therapy services by performing functions commensurate with the needs of the patients as determined by the physical therapist. . . . The physical therapist assistant works within the physical therapy service which is under the direction of a physical therapist. The assistant is responsible to and supervised by the physical therapists.(4)

In 1974, 121 educational programs (85 percent of those then in existence and including those with curriculums in physical therapy for the physical therapist assistant, physical therapist, and the graduate student) affiliated with approximately 1671 individual clinical centers. The number of clinical centers for individual programs ranged from 5 to 165 with an average of 38 centers per academic institution.

The need for guidelines to assist clinical instructors in developing activities in clinical education has been identified. The purpose of this document is to provide information and standards (concerning site selection for clinical education in physical therapy) which will serve as guidelines for: (a) clinical faculty who are considering establishing clinical education in their centers, and (b) academic coordinators of clinical education in educational institutions who are selecting centers to provide clinical education experiences for their students. Along with the suggested standards are interpretations, an inventory for self-assessment of a clinical education site, and a form for summary comments. The statement of standards appears in Chapter III, which is preceded by two chapters of text presenting basic principles and considerations.

TABLE OF CONTENTS

I. Definitions and Basic Principles B-1

- Philosophy B-1
- Definitions. B-1
- Types and Levels of Students B-3
- Basic Principles of Clinical Education B-4

II. Considerations in the Placement of Students. B-7

- Range of Site Selection. B-7
- Selection Requirements B-7
- Location of Clinical Centers B-8
- Student's Selection. B-9
- Costs and Benefits B-9
- National Requirements. B-9
- Interinstitutional Agreements. B-10
- Equal Opportunity and Affirmative Action B-10
- Family Educational Rights and Privacy. B-11

III. Statement of Standards B-12

- Intended Use B-12
- Standard 1: A Clinical Center's Philosophy and Its Objectives for Patient Care and Education Must Be Similar and Compatible With Those of the Educational Institution B-13
- Standard 2: A Clinical Center Must Demonstrate Administrative Support and Interest in Physical Therapy Education. B-13
- Standard 3: Communications Within the Clinical Center Should be Effective and Positive B-14
- Standard 4: The Physical Therapy Service Should Provide an Active, Stimulating Environment Appropriate for the Learning Needs of the Student B-15
- Standard 5: The Physical Therapy Service Should Have an Active and Viable Process of Internal Evaluation of Its Own Affairs and Should Be Receptive to Procedures of Review and Audit Approved by Appropriate External Agencies. B-15
- Standard 6: The Various Consumers Should Be Satisfied That Their Needs for Physical Therapy Service Have Been Met. B-16

Standard 7: Selected Support Services Should Be Available to Affiliating Students. B-16

Standard 8: Adequate Space for Study, Conferences, and Treating Patients Should Be Available to Affiliating Students. B-17

Standard 9: Programs for Affiliating Students Should Be Planned to Meet Specific Objectives of the Curriculum, the Clinical Center, and the Individual Student . . B-17

Standard 10: The Clinical Center Must Have a Variety of Learning Experiences Available to Affiliating Students . B-18

Standard 11: The Staff of the Clinical Center Must Maintain Ethical Standards of Practice B-18

Standard 12: Roles of the Various Types of Physical Therapy Personnel at the Clinical Center Must Be Clearly Defined and Distinguished From One Another. B-19

Standard 13: There Should Be an Active Staff Development Program for the Clinical Center. B-19

Standard 14: The Physical Therapy Staff at the Clinical Center Should Be Interested and Active in Professional Associations. B-19

Standard 15: The Physical Therapy Staff at the Clinical Center Must Possess the Expertise to Provide Good Patient Care (Or Service) and Must Be Adequate in Number to Provide Simultaneously a Good Educational Program for Students B-20

Standard 16: One Physical Therapist Should Be Responsible for Coordinating the Assignments and Activities of the Students at the Clinical Education Site B-20

Standard 17: Selection of Clinical Instructors Should Be Based on Specific Criteria B-20

Standard 18: Clinical Instructors Should Be Able to Apply the Basic Principles of Education--Teaching and Learning--To Clinical Education B-21

Standard 19: Special Expertise of the Various Clinical Center Staff Members Should Be Shared With the Affiliating Students. B-21

Standard 20: The Clinical Center Must Be Committed to the Principle of Equal Opportunity and Affirmative Action as Required by Federal Legislation. B-21

Conclusion. B-22

IV. List of References. B-23

* * *

Supplements to Standards for a Clinical Education Site in Physical Therapy. B-25

Self-Assessment for a Clinical Education Site in Physical Therapy B-27

Summary Evaluation of a Clinical Education Site in Physical Therapy B-61

Example of a Form for Assessment by Student B-66

I. DEFINITIONS AND BASIC PRINCIPLES

PHILOSOPHY

The philosophy of physical therapy education has always included the concept of interdependence of the clinical faculty with those of the educational institution. These relationships are well expressed in the Handbook for Physical Therapy Teachers:

> Any statement of philosophy developed within a particular educational setting must be mutually acceptable to all members of the faculty, both academic and clinical. There must also be compatibility between the philosophy of the institutions where physical therapy students will receive clinical experience. Certain unifying principles must be mutually agreeable so that concerted action may be taken to meet the needs of the profession with an acceptable balance of emphasis on obligations to research, to education, and to clinical practice. When there is agreement on fundamental principles the students will have an opportunity to acquire a clear-cut sense of purpose. Mutual interests, mutual trust, and mutual effort will be evident if the statement of philosophy of the School of Physical Therapy reflects the basic tenets of the encompassing institutions.(9)

In Form and Function of Written Agreements, published 1972, the authors emphasize that "the educational institution and the clinical institutions share commonality of purpose and are interdependent."(13)

The educational institution is brought into partnership with several service institutions (agencies and groups of practitioners) for the clinical education of physical therapy students. In all cases, the spirit of interdependence should be documented in the interinstitutional agreements developed bilaterally by the personnel from the educational and clinical institutions negotiating together. The institutions are interdependent for their own well-being, their growth, and their ability to serve the public, students, and the profession. They could not exist alone, and there is the ever-present need for individuals associated with both institutions to work harmoniously together, solving problems, planning activities, and serving together for the common good. It is for these purposes that this document is prepared.

DEFINITIONS

To facilitate understanding, some terms concerned with clinical education are defined below. Other terms are defined in the text. (Also see additional definitions on pages 1-5 of the final report of the Project.)

Academic Coordinator of Clinical Education (ACCE)

An individual, employed by the educational institution, whose primary concern is relating the students' clinical education to the curriculum. This coordinator administers the total clinical education program and, in association with the academic and clinical faculty, plans and coordinates the individual student's program of clinical experience with academic preparation, and evaluates the student's progress.

Behavioral Objective

A stated target for a specific learning experience. The written objective identifies the behavior which, when exhibited, indicates that learning has occurred and the objective has been satisfactorily completed.

Center Coordinator of Clinical Education (CCCE)

The individual at each clinical education site who coordinates and arranges the clinical education of the physical therapy student and who communicates with the ACCE and faculty at the educational institution. This person may or may not have other responsibilities at the clinical education center.

Clinical Appointment

The appointment of a clinician to a university faculty rank. Reimbursement and voting privileges are not usually associated with the appointment. The faculty member may be involved in academic activities (classroom teaching or committee functions) and may be awarded privileges based on appointment. The primary responsibility of this person is to the employing agency, not the academic institution.

Clinical Education (clinical training, clinical assignments, practicum, clinical affiliation, field experience, clinical experience)

The portion of the student's professional education which involves practice and application of classroom knowledge and skills to on-the-job responsibilities. This occurs at a variety of sites and includes experience in evaluation and patient care, administration, research, teaching, and supervision. It is a participatory experience with limited time spent in observation.

Clinical Education Site (clinical center, field experience placement, clinical site, center)

A health care agency or other setting in which learning opportunities and guidance in clinical education for physical therapy students are provided. The clinical education site may be a hospital, agency, clinic, office, school, or home and is affiliated with one or more educational programs through a contractual agreement.

Clinical Faculty Member (ACCE, CCCE, CI)

Any person with responsibilities in clinical education. This includes both academic and clinical personnel.

Clinical Instructor (CI) (preceptor)

A person who is responsible for the direct instruction and supervision of the physical therapy student in the clinical education setting.

Didactic Education

That part of the educational process which occurs in the classroom and emphasizes skills and theoretical concepts to be put into practice in the clinical education phase of the educational process.

Evaluation

"The appraisal of the worth of a person, place, or thing in terms of internal or external criteria."(8) In the Project on Clinical Education, the emphasis has been on evaluation for educational purposes.

Job Description

A document enumerating the tasks, responsibilities, authority, and minimum qualifications of a person in an employment position.

Learning Experience

Any experience which allows or facilitates a change in behavior. A planned learning experience includes "a learner, an objective for the learner, a situation devised to produce a response that contributes to the objective, a response by the student and reinforcement to encourage the desired response." (9)

Patterns of Clinical Education

Two patterns of organization of clinical education within the total educational program: (a) concurrent, in which a portion of each day or week is devoted to didactic instruction and the remainder is spent in clinical education, and (b) nonconcurrent, when the student is engaged full time in a clinical education setting.

Philosophy

The beliefs, concepts, and attitudes of an individual or group such as a health care agency or an educational institution.

TYPES AND LEVELS OF STUDENTS

Students involved in the educational programs in physical therapy are preparing to be physical therapists or physical therapist assistants. There are various levels or stages of their clinical education.

Types

Physical Therapist Assistant is a graduate of a two-year college-level program leading to an associate degree. These programs are generally located either in community or junior colleges or in a few four-year institutions of higher learning.(4)

Physical Therapist is a graduate of a program "in a regionally accredited institution of higher learning awarding degrees at the baccalaureate level or above and which can provide, directly or through affiliation with a neighboring institution, facilities for initial directed clinical education, as well as necessary teaching resources and instructional expertise in the areas of basic and applied, natural, behavioral, and medical sciences."(3)

Stages

Beginning Stage: first period of assignment, first quarter, first semester, or first year.

Intermediate Stage: second or third quarter or semester; intermediate quarters of a two-year curriculum. Students in the intermediate stage are often assigned to the clinic on a part-time basis; the period is longer than assignments for beginning students.

Advanced Stage: the final period of assignment; in the last quarter or semester; or a final summer experience.

Postgraduate Level: beyond completion of the advanced stage of the basic curriculum; a clinical experience related strictly to the graduate student, an internship.

Time Basis

The clinical education of the student may be on a part-time or full-time basis.

Part time generally means a few hours a day, two days a week, or half-days a week for a certain period of time. Part-time students also are considered to be in concurrent learning situations, where didactic class work and part-time clinical education occur simultaneously.

Full time generally means the student is assigned to blocks of time on a full-time basis for a period of weeks to centers either in proximity to the parent educational institution or at some distance from it.

BASIC PRINCIPLES OF CLINICAL EDUCATION

The principles enumerated below have become generally accepted as useful guidelines in developing programs of clinical education. The education of both types of physical therapy students should be based on sound educational planning and clearly defined behavioral objectives. In hierarchiacal order, objectives for the entire curriculum can be interpreted as objectives for individual courses, units of courses, and daily assignments, including each of the various levels of the clinical education portion of the curriculum.

In like fashion, each clinical center affiliated with an educational institution should have clinical education objectives for the students assigned to the service. These objectives should be acceptable and compatible with those of the sending institution for the type of student, the level of student, the length of the assignment, and the purpose of the assignment.

1. Two primary functions are present in any clinical education assignment--education and service. In addition, research is an ingredient necessary

to both functions. Education is the first consideration of the student and of the sending institution. Service is the first consideration of the receiving institution. These two primary functions can be compatible. With good communications and receptive individuals, an accommodation is made in the majority of instances. Research between the two institutions or within either one or the other should be a third phase of the joint activities of the educational institution and the clinical center.

2. Clinical education is an intrinsic part of the basic curriculum and should not be considered as a separate offering. Therefore, physical therapists involved in clinical education are essential members of the faculty for the basic curriculum and should not be regarded as an instructional staff apart from the faculty.

3. Concurrent learning experiences, with increasing degree of difficulty and complexity, should progress to a final full-time block assignment of the student to clinical sites for intensive and realistic educational experiences. For the advanced undergraduate and graduate student, clinical education experiences should involve higher-level problem-solving techniques in order to prepare the graduate to function in positions where the increased responsibility for decision-making is necessary in supervision, teaching, and administration as well as in direct patient care.

4. Clinical education should take place in a broad spectrum of institutions and agencies. These centers should be representative of the health care delivery system of the nation, from prevention and early intervention to acute care, chronic care, and maintenance care. This spectrum of experiences should include the opportunity to be in agencies that are designed to meet the needs of society with particular emphasis on caring for the underserved populace.

5. Clinical education for physical therapy students should be interdisciplinary. First, educational opportunities should be provided for both types of students to be educated together. Secondly, educational opportunities should be provided for the physical therapist and physical therapist assistant students to be educated with health professionals in the other disciplines. The mere presence of other individuals does not assure interdisciplinary education. The activity must be planned with specific outcome anticipated.

6. Clinical education should include experience with team-care for clients or patients. Depending upon the number and type of personnel, team-care should exist within a physical therapy service. The team-care within an agency or organization should be interdisciplinary in nature and must be planned as part of the clinical education experience.

7. The quality of the service and the quality of the staff--their interest in their clients, in their professional responsibilities, and in their students --is more important than the size of the center and the size of the physical therapy staff.

8. In planning clinical experiences at the level of basic professional education, the concern should be for preparing the students to serve as

generalists in order to meet the primary needs of society. Allowance can be made for special interests, but the opportunity for a more in-depth exploration of these areas for true specialization should be accommodated at the postgraduate level.

9. The design of the clinical education experiences should be flexible enough to accommodate differences in individual students, for example: (a) because learning styles of students vary, patterns of assignment to selected sites or within clinical centers should not be fixed; (b) the total time commitment should be as long as necessary for the student to complete the objectives of the assignment; and (c) students with demonstrated competencies should be given the opportunity to work toward higher-level objectives or to bypass, reduce, or select alternate assignments in the fulfillment of their clinical education commitment.

II. CONSIDERATIONS IN THE PLACEMENT OF STUDENTS

RANGE OF SITE SELECTION

The range of site selection for clinical education should include those institutions or agencies which will assist in preparing the student to practice at the entry-level position as a professional on the health care team.

The variety of learning experiences available within each clinical center should be identified with objectives developed for each unit or assignment appropriate for each type and level of student. In order to accommodate the individual needs and interests of each student, the selection and schedule of clinical experience should be mutually planned between the academic coordinator of clinical education (ACCE) and the center coordinator of clinical education (CCCE).

These designed learning experiences should provide an exposure to prevailing contemporary health needs of society, and should be an effort to prepare new graduates to function in a flexible manner and to be able to adapt to the steadily occurring changes in the health care delivery system. The programs should be modified regularly after a thorough evaluation of health care needs, resources, opportunities, and changing patterns of care.

SELECTION REQUIREMENTS

The criteria developed by an educational institution for the selection of sites for clinical education take cognizance of the multiple organizational patterns utilized in health care delivery at primary, secondary, and tertiary levels.

An educational institution may have requirements for clinical education of their students that include experiences in fixed facilities for acute care, rehabilitation, or chronic care. These experiences are usually in caring for the sick, the horizontal patient. There may also be requirements for clinical education involving vertical patients in such out-of-hospital services as community health agencies, health maintenance organizations, public schools, outreach clinics, drug rehabilitation centers, halfway houses, programs for the mentally and emotionally ill, and a variety of other agencies or programs prepared to serve the public and community health needs.

An educational institution may allow elective placement in some of the out-of-hospital settings and some unique learning opportunities within a hospital in order to enable the student to pursue special interests in areas like mental retardation, developmental disabilities, arthritis, or the aged. Other special-interest assignments can be available for students planning for careers as administrators, supervisors, consultants, teachers, or researchers.

An educational institution may wish to consider a single assignment of a student to a health care complex with a variety of programs through which the student will progress through a spectrum of health care services. Agencies of this type may exist in an area health education center or in a regional health or medical complex involving community-based, as well as hospital-based programs; a consortium arrangement of educational and service institutions and agencies is another possibility.

The criteria for selection of sites to which each individual student is assigned should be consistent with experiences necessary to facilitate achievement of the competencies outlined in the Standards for Basic Education in Physical Therapy(5) and the objectives of the overall curriculum of the individual educational institution.

LOCATION OF CLINICAL CENTERS

In the selection of clinical education centers as to location, the ACCE should give consideration to several important factors.

For one thing, consideration should be given to clinical centers in close proximity to the educational institution in order to allow closer liaison, continuing education, and an exchange of ideas, personnel, and equipment. An exception to this general principle might be when a student is assigned to a distant center for a special-interest need or out of the country for a select overseas assignment.

Consideration should also be given to the agencies or institutions located not only in urban and suburban areas, but also to those located in the rural areas.

When clinical centers in close proximity or in crowded geographical areas are overutilized, consideration should be given to exploration and development of new sites not currently involved in clinical education. And, when existing sites are underutilized in comparison with the number of students that may be accommodated at any one time, attention should be given to the reasons.

Although the distribution of student assignments throughout all 12 months of the year has been improving, consideration should be given to more effective utilization of clinical centers during all available months. There should be an appreciation, however, that clinical center staff may desire not to have affiliation all 12 months of the year. The personnel associated with the clinical education of students may benefit from a few months of time without students present.

When there appears to be overutilization of the sites most highly desirable for educational purposes, the ACCE and the CCCE should consider ways in which large numbers of students can be accommodated without sacrificing quality. Sometimes when new learning patterns and supervisory styles are utilized, additional students may be accommodated.

Because most educational institutions have as one raison d'être the improvement and enrichment of their community (county, state, region), first consideration should be given to development of clinical education programs that will enhance the centers within the area served.

STUDENT'S SELECTION

As far as possible, the student should be involved in the selection of clinical assignments. Efforts should be made by the academic and the clinical faculty to provide the student with an appropriate understanding of the criteria for an optimal clinical experience. The selection process itself can be a learning experience and the critical judgment of the mature student will be enhanced.

Students should request a clinical center assignment from a predetermined list of centers already affiliated with the educational program. If a student desires to affiliate with a center that is not on the list of approved sites, the ACCE should evaluate the requested center by the same criteria which were used to develop the existing list of affiliating sites. Students should not have the primary responsibility of seeking out a site on their own.

Experience has shown that most students, when given the opportunity, will request assignments to clinical centers where they will have the opportunity of pursuing their own objectives based on their professional goals and interests. Site selection should be based on educational opportunities provided and not on the provision of financial support from either the clinical center or the educational/sponsoring institution.

COSTS AND BENEFITS

The ACCE and CCCE should thoroughly evaluate cost factors prior to commitment for clinical education. All financial matters should be negotiated prior to finalizing the contractual relationship.

Benefits to the student and to the educational institution are readily recognized, but the advantages for the clinical faculty are often less evident. Increased rewards for the clinical faculty should include: participation by the academic faculty in the clinical center as consultants, instructors, vacation relief, or in preparing and offering continuing education opportunities for the staff of the center. Other rewards to the clinical faculty should include: faculty appointments, utilization of university and college resources, the loan of equipment, the use of interlibrary loan, financial coverage for general meetings as well as required supervisors' meetings, and honoraria for service beyond their job responsibilities.

It should also be noted that involvement with students in clinical education expands the job responsibilities of clinical staff members. This may result in increased job satisfaction, job promotion, or added salary benefits.

NATIONAL REQUIREMENTS

All agencies affiliated with physical therapy educational programs are expected to meet the essential requirements as established and published by the American Physical Therapy Association.(3,4,5,6)

Each agency is expected to be accredited by the Joint Commission for the Accreditation of Hospitals(12) or other similar accrediting agencies, such as state boards or other approval mechanisms for health care delivery organizations or programs sponsored by a legitimately authorized agency or institution. This type of accreditation would include day-care centers, nursing homes, home-care programs, group practice clinics, recognized voluntary agencies, and local welfare agencies.

INTERINSTITUTIONAL AGREEMENTS

The American Hospital Association urges that hospitals negotiate some form of written contract with all of the educational programs in which they participate. Furthermore, in order for an educational institution to be eligible for federal financial support, written agreements must be available for all clinical education assignments for students in the allied health professions. In addition to such practical considerations as eligibility for funding, the negotiation and writing of agreements is considered a wise expenditure of time and effort.

Staff from either the educational institution or the clinical center should feel free to initiate the contact on the desirability of the clinical affiliation. The clinical center may desire the role and seek out educational institutions with which it might affiliate. The ACCE may seek service and institutional agencies of health care for placement of students in a variety of settings in order to accommodate a greater number of students, to meet special needs of students, or to assist in the expansion of health care service to those in need. Representatives from the two groups should explore their expressed interests and topics related to the possible involvement of the two agencies and their collaborative agreement.

Information included in a publication concerning written agreements is available as a resource for the basic steps in drafting a contract.(13) This information will assist the representatives of the two agencies to follow through the necessary steps of exploring the issues and the problem areas and of clarifying responsibilities to the parent agency, to the cooperating agency, and to the student prior to the drafting of a written agreement, which should be the culmination of negotiations. The written agreement would logically include material relating to the mechanism for continued cooperation, regulation, review, and termination of the contract. These issues should be thoroughly clarified prior to any commitment on the part of either party.

EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

In view of certain federal legislation enacted during the past few years, the need for wise selection and mutually agreed-upon contract terms is of even greater importance. The net effect of the legislative acts has been to prohibit discrimination on the basis of race, color, religion, national origin, and sex. Affirmative action programs represent operational responses to equal opportunity legislation.

For educational institutions, administrators must be concerned with policies and procedures that affect not only faculty and staff but also students. These policies and procedures include those related to recruitment, admissions, sex-related program restrictions, counseling, housing, scholarships, recreation, and athletics. Affirmative action mandates that all components of an educational program be examined for possible discriminatory practices and that, when found, these practices be eliminated.

For educational programs that place students in external locales for part of their education, the implications of this requirement are of particular importance. In these instances, the educational administrator must consider each external agency as part of the educational program, and, as such, must be certain that each complies with affirmative action policies and procedures.(14)

In physical therapy education each cooperating clinical center is part of the educational program, as defined by affirmative action programs and must adhere to affirmative action policies. The responsibility for affirmative action in clinical education should be shared by each individual involved in the clinical education program.

Before entering into or renewing a contract with the cooperating clinical center, the ACCE should be certain that the agency will accept qualified students regardless of the student's sex, race, religion, color, or national origin. Various aspects of the clinical education program should be examined to be sure that each student will be provided equal opportunities, learning experiences, and benefits. Clinical center rules, regulations, and policies should also be discussed to be certain that they are or will be interpreted and apply to each student in the same manner.

At this time it is difficult to predict how far-reaching the impact of affirmative action will be with regard to clinical education. It appears clear, however, that academic and clinical personnel associated with clinical education need to become more aware of affirmative action and need to design clinical education activities that recognize and reflect the need to provide equal opportunities for all students.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY

Clinical faculty members should be aware of the provisions of United States Public Law 93-380, the Family Educational Rights and Privacy Act of 1974.(10)

Subsection (a) of the act gives students, within 45 days of their written request, "the right to inspect and review any and all official records, files, and data directly related to" them.

Subsection (b) of the statute deals with the requirement that the institution obtain the student's consent before releasing personally identifiable information or files concerning that student to any individual, agency, or organization.

If a question of release of information should arise, clinical faculty members should consult with officials who are familiar with the implications of the Federal Disclosure Act of 1974.

III. STATEMENT OF STANDARDS

The items which the Project on Clinical Education concluded to be important as a basis for selection and retention of a clinical center for education of physical therapy students have been organized into the list of standards presented in the following pages.

INTENDED USE

These items are suitable for the small clinical service with one or two physical therapists and the one with a larger staff complement, for the community-based program as well as the hospital-based program. These standards should be used as guidelines by the academic coordinator of clinical education (ACCE) in evaluating a clinical center prior to affiliating and thereafter at regular intervals. For clinical centers, these standards are designed to be used as a basis for self-evaluation by the center staff prior to affiliating with an educational program and on a routine basis thereafter.

In addition, consideration should be given to the Standards for Physical Therapy Services, adopted by the Board of Directors of the American Physical Therapy Association in February 1971.(6) The set of standards as developed by the Project on Clinical Education for selection of clinical education sites supplements that statement of standards of practice and does not replace it.

The standards have been developed for use. This is not to imply that each actual and potential clinical education site will meet every point expressed in the list presented here. These standards should be considered broad goals to work for in achieving the most effective clinical education. In order to facilitate use of the standards, an inventory for self-assessment and a summary evaluation form have been developed. These appear as supplements to this document following the list of references. Before presenting the standards themselves, a few comments should be made about the inventory and the summary.

Self-Assessment and Summary Evaluation

The 34-page inventory, "Self-Assessment of a Clinical Education Site in Physical Therapy," may be used by the staff of a center to evaluate their own resources. The results of this self-assessment should then be shared with the educational institution with which the center is or will be affiliated. The form, "Summary Evaluation of a Clinical Education Site in Physical Therapy," can facilitate the sharing process.

After concluding the self-assessment inventory, the staff of the center should review their findings and complete the five-page summary evaluation form. For each of the appropriate areas, strengths, weaknesses, adequacies, and inadequacies should be identified. The staff should indicate changes they wish to initiate and suggest how the improvements may be accomplished. At the end, a final statement should summarize the present status of the center as a clinical education site.

This report should be shared with the ACCE at the appropriate educational institution(s). The ACCE should review the completed self-assessment from the clinical center along with other materials and, if possible, schedule a personal visit to the clinical center. A summary evaluation form can also be filled out by the educational program. It then serves as a final report and recommendation to the center.

STANDARD 1: A CLINICAL CENTER'S PHILOSOPHY AND ITS OBJECTIVES FOR PATIENT CARE AND EDUCATION MUST BE SIMILAR AND COMPATIBLE WITH THOSE OF THE EDUCATIONAL INSTITUTION.

Interpretation

A clinical center should have a written statement of its philosophy as part of its overall functioning. This statement generally includes comments relating to its responsibilities for patient care, community service, community resources, educational activities, and research activities. Along with the statement of philosophy, there is frequently a written statement of specific educational objectives indicating the commitment of the agency to the education of students in a variety of disciplines, including an acknowledged responsibility for the education of physical therapy students.

When the physical therapy service is part of a larger organization, it should have its own written statement of philosophy for its activities and written objectives indicating its service and education commitments to consumers, patients and their families, the community, staff, and students.

Because clinical education in physical therapy is a dual responsibility of the academic institution and the clinical centers, not only must there be a compatible relationship between the personnel involved, but the philosophy and objectives of the two institutions must be compatible and acceptable one to the other. They are not necessarily identical nor in complete accord.

This compatibility may be reflected in the center's written statement of philosophy, its standards for patient care, and its educational objectives for clinical education. The standards of patient care should include policies regarding patient referrals, roles of staff members, policies regarding student participation, and other topics. Educational objectives should be written specifically for the center, should be flexible, should be reviewed annually and updated, and should be expressed in a fashion that can be modified for different types of students and different levels of students. When evidence of long-range planning, inservice education commitments, and educational and research activities is available, it increases the knowledge and appreciation of the philosophy and objectives of the center.

STANDARD 2: A CLINICAL CENTER MUST DEMONSTRATE ADMINISTRATIVE SUPPORT AND INTEREST IN PHYSICAL THERAPY EDUCATION.

Interpretation

A commitment to education will usually be expressed in the written statements of philosophy and educational objectives for the center as a whole and for the physical therapy service.

The process by which the administration and the physical therapy staff participate in an educational program should be documented. The channels may be indicated in a table of organization for the institution. Support of inservice education programs and continuing education for all levels of personnel is evidence of its interest in upgrading the personnel.

There are specific needs for educational programs in physical therapy, but the primary components for acceptability and successful programs relate to the affective domain of learning, indicating that the institution and the physical therapy staff are interested, willing, and committed to students in a program of clinical education. These characteristics are frequently more important than size, equipment, and other resources.

The institution's support and interest in physical therapy education can be documented by indicating the educational institutions with which the physical therapy service is affiliated or has affiliated and the year the affiliations first began. Administrative support and interest in physical therapy education can also be demonstrated by institutional policy regarding release time, attendance at professional meetings, continuing education support, support through salaries, and other institutional policies that would contribute to a sound education.

STANDARD 3: COMMUNICATIONS WITHIN THE CLINICAL CENTER SHOULD BE EFFECTIVE AND POSITIVE.

Interpretation

Within a clinical center there are established lines of communication and formal documents for the purpose of communicating to others. Informally, verbal and nonverbal communications take place in many ways. The manner in which the staff in physical therapy communicates with consumers of its services, patients, administrators, physicians, and referral agencies should be consistent with results desired and should be reviewed regularly. A review of the table of organization indicates the formal lines of communication. Communication occurs through regular meetings of staff, advisory committees, or with liaison representatives of referral agencies. Democratic participatory management in the physical therapy service should increase communication between staff and administration at supervisory levels. Through such mechanisms, the necessary two-way communication system can be facilitated.

Another form of communication is through monthly and yearly reports which list the activities of staff and plans for the next time period, as well as the services rendered to referring departments and the types of activities related to patient care which have taken place. The reports might include professional activities of the staff and other activities in which the staff is involved that are not directly patient related.

The procedures utilized in communicating with students might well fit the established pattern, or special arrangements may need to be made on a daily or weekly basis with affiliating students.

It is important to maintain constant vigilance to insure that existing channels of communication are continuing to serve the needs of all personnel within the health care center.

STANDARD 4: THE PHYSICAL THERAPY SERVICE SHOULD PROVIDE AN ACTIVE, STIMULATING ENVIRONMENT APPROPRIATE FOR THE LEARNING NEEDS OF THE STUDENT.

Interpretation

Evaluation of the desirable learning environment in the clinical setting can be based in part on characteristics of good management, high staff morale, harmonious working relationships, and sound patient management procedures. Monthly and annual reports can provide descriptive and statistical analysis of patient care and related activities. The standards of practice established for service and administrative manuals can provide information in the areas of patient care and administrative procedures.

Space and equipment should be adequate for good patient care; this reflects the attitude of the center's administration toward support for the physical therapy service. The learning environment should show such less tangible characteristics as personnel receptiveness, a variety of expertise, interest in newer techniques, involvement with other professionals outside of physical therapy, and sophistication of public relations efforts. An environment conducive to learning does not need to be elaborate but must be dynamic and challenging.

STANDARD 5: THE PHYSICAL THERAPY SERVICE SHOULD HAVE AN ACTIVE AND VIABLE PROCESS OF INTERNAL EVALUATION OF ITS OWN AFFAIRS AND SHOULD BE RECEPTIVE TO PROCEDURES OF REVIEW AND AUDIT APPROVED BY APPROPRIATE EXTERNAL AGENCIES.

Interpretation

The procedures for evaluation of personnel and functions of the physical therapy service should be documented and should be completed on a routine basis. Such evaluations should include the internal administration of the service, and, when appropriate, the effectiveness of the external administrative framework as it relates not only to its own internal functioning but to its relationships with other administrative units within a larger agency.

Evaluation of all personnel should be completed at regular intervals and should include appropriate mechanisms for expediting the process, for appropriate feedback to individuals, and for an analysis of the care rendered by the staff to its clients and patients. For evaluation of service, some form of utilization review, peer review (both internal and external), or medical audit of service should be required at regular intervals. Problem-oriented record systems and data-processing systems can be helpful in this process.

Evaluation should include not only the delivery-of-service activities but also special studies, teaching, research, or other commitments of the staff and the manner in which such work is being done. The rate of staff turnover should be identified and the reasons for this turnover, both for younger staff members and senior or supervisory personnel.

The programs of education for various levels of students from other disciplines as well as physical therapy should be reviewed and revised as objectives, programs, and staff changes occur.

Evaluation with the goal of improving the status quo should be an ongoing process with the results recorded so that change or the lack of change can be documented.

STANDARD 6: THE VARIOUS CONSUMERS SHOULD BE SATISFIED THAT THEIR NEEDS FOR PHYSICAL THERAPY SERVICE HAVE BEEN MET.

Interpretation

Consumers of physical therapy services include patients and their families, administrators, physicians and professional personnel, referring agencies, and students. The degree of satisfaction from all of these sources should be documented on either a formal or informal basis.

Records and reports, carefully completed, provide documentation of patient care plans, from referral to discharge and follow-up status; communicate information to the medical service, administration, and other professionals; and provide statistics for analysis as to work load, staffing patterns and satisfaction, program planning, and research studies. These records and reports are necessary for evaluation of functions and the degree to which the needs of the consumers requesting physical therapy service are being met.

Patients and their families express their satisfaction or dissatisfaction with services rendered in a variety of personal ways. Administrators express their satisfaction or dissatisfaction through support, changes in personnel, budget allocations, and periodic formal assessments. Physicians express their satisfaction through increased or decreased referrals and increased or decreased reliance on the staff's judgment. Personnel may express their satisfaction through their growth and maturity as well as their stability. Referring agencies may express their satisfaction through increased referrals.

Understanding the procedures for insuring consumer satisfaction are vital to functioning as an effective physical therapy professional; therefore, students must have the opportunity to be involved in such activities.

Since meeting the needs of consumers is the reason for the existence of a health care agency, the degree of satisfaction should be a constant consideration of all personnel involved in the delivery of service.

STANDARD 7: SELECTED SUPPORT SERVICES SHOULD BE AVAILABLE TO AFFILIATING STUDENTS.

Interpretation

Support services which may be available should be documented in writing for the student prior to arrival and supplemented by additional information upon arrival. Such support services include: health care, emergency medical care, and pharmaceutical supplies; library facilities, educational media and equipment, copy machines, computer services; and support from counseling personnel and advisers in research design and independent study planning. Other services might include room and board, assistance of the staff in securing services as needed, commissary privileges, laundry, parking, special transportation, and recreational facilities.

In the statement about the availability of such support services, there should be clarification of the conditions under which the students may have access to them and at what cost, if any. For all services available to students, there should be clear statements about lack of discrimination; for example, in room, board, laundry, and recreational facilities.

STANDARD 8: ADEQUATE SPACE FOR STUDY, CONFERENCES, AND TREATING PATIENTS SHOULD BE AVAILABLE TO AFFILIATING STUDENTS.

Interpretation

The availability of space for special purposes should be identified in the administrative manual by a floor plan or descriptive materials. If there are stipulations or restrictions imposed on students with respect to access to available space, they should be clearly indicated in writing.

Those items of particular concern to students are: lockers for clothing and security of personal belongings, a study area, a charting area, adequate space for patient care activities, and a private area for counseling with a clinical instructor or other staff members. Classrooms and conference space may be available; they should be accessible for staff meetings, lectures, case conferences, and demonstration of activities.

STANDARD 9: PROGRAMS FOR AFFILIATING STUDENTS SHOULD BE PLANNED TO MEET SPECIFIC OBJECTIVES OF THE CURRICULUM, THE CLINICAL CENTER, AND THE INDIVIDUAL STUDENT.

Interpretation

Preliminary planning for students should take place in personal sessions between the center coordinator of clinical education (CCCE) and the clinical instructors (CIs) in the center and the academic coordinator of clinical education (ACCE) from the educational institution. At these sessions the educational objectives of the two institutions should be shared, compared, and used as a point of departure in planning student schedules and learning experiences while the student is in the clinical center. If the center has not previously been affiliated with an educational institution, it should document the opportunities for learning available within the agency and a strategy for implementing these learning experiences based on sound educational planning and according to daily, weekly, or monthly schedules.

Although the primary commitment of students may be for patient care, other learning possibilities should be available for professional growth and experiences in administration, supervision, teaching, and research. The number of clinical staff at all levels who are available to assist in the teaching effort should be documented. The availability of reference materials, reprint files, and library facilities to complement learning experiences should be identified. Many of these resources can wisely be included in administrative and procedural manuals.

The staff in the clinical center should be prepared to modify particular learning experiences to meet individual student needs, objectives, and interests. Where possible, upon arrival, students should participate in planning their learning experiences according to mutually agreed-upon objectives. Evaluation of student performance is an integral part of the learning plan, and opportunity for discussion and feedback of strengths and weaknesses should be scheduled on an ongoing basis. Effective supervision and counseling are important in the student's clinical education.

Plans should be made for a continuous liaison between staff in the clinical center and staff in the academic institution. Mechanisms for two-way communication between the student and the staff in the clinical centers and the academic institutions should be established; all parties should be encouraged to communicate freely as a matter of routine.

STANDARD 10: THE CLINICAL CENTER MUST HAVE A VARIETY OF LEARNING EXPERIENCES AVAILABLE TO AFFILIATING STUDENTS.

Interpretation

Physical therapy students are primarily concerned with delivery of services to clients or patients. This activity has traditionally been on a one-to-one basis, but it can and should be considered on a group basis in institutions, in community agencies, extended-care facilities, and other situations. Patient care activities involving students can be adjusted to the level of student, the length of assignment, and appropriate roles.

Other learning experiences for students should evolve from: rounds, case conferences, department meetings, team-care meetings, committee meetings, planning sessions, special clinics, special educational programs, observing in surgery, observing physicians in clinical situations, and participating in outpatient departments, bedside care, clinic care, home care, and community activities. The range of experiences with patients should include screening, planning, treating, evaluating, follow-up, and reporting. Specific educational objectives should be identified for each of the experiences available. If research projects are being conducted, clarification should be made on whether or not the student may participate in this activity and under what stipulation.

STANDARD 11: THE STAFF OF THE CLINICAL CENTER MUST MAINTAIN ETHICAL STANDARDS OF PRACTICE.

Interpretation

Standards of practice are based on state practice acts in physical therapy, the code of ethics of the American Physical Therapy Association, and individual or institutional policy. All physical therapists and physical therapist assistants on the staff should be practicing legally in the state. The institutional policy, in addition to standards of practice, should include statements on patients' rights, release of confidential information, photographic permission, clinical research, and related issues.

The clinical center should have appropriate procedures for reporting illegal, unethical, or incompetent practice of physical therapy to appropriate authorities. All standards of practice should be in writing (e.g., in the administrative manual) and available to the staff and the students.

STANDARD 12: ROLES OF THE VARIOUS TYPES OF PHYSICAL THERAPY PERSONNEL AT THE CLINICAL CENTER MUST BE CLEARLY DEFINED AND DISTINGUISHED FROM ONE ANOTHER.

Interpretation

Job descriptions should be complete and up to date for all personnel at the clinical education site; these should be in the administrative manual and accessible to staff and students. The job descriptions should mirror current practices and should reflect the actual job being performed by the individual. Organizational charts should show the line and staff relationship of the staff members and to whom the student is responsible while at the center.

STANDARD 13: THERE SHOULD BE AN ACTIVE STAFF DEVELOPMENT PROGRAM FOR THE CLINICAL CENTER.

Interpretation

The staff development program should be in writing in the administrative manual and should state policies concerning on-the-job training, inservice education programs, continuing education program activities, attendance at state or national professional meetings, and graduate study. The statement should include the policy on release time for certain types of development programs and the nature of possible financial support for attendance and participation in self-improvement projects.

Inservice educational programs should be scheduled on a regular basis and be planned by members of the staff. The continuing education programs in which staff members have participated during the past two years and the contribution of the physical therapy personnel to educational programs within the institution and in the community should be documented.

STANDARD 14: THE PHYSICAL THERAPY STAFF AT THE CLINICAL CENTER SHOULD BE INTERESTED AND ACTIVE IN PROFESSIONAL ASSOCIATIONS.

Interpretation

Since one of the hallmarks of a profession is a strong professional association, the staff in physical therapy at the clinical center should be active in appropriate organizations. A yearly or bi-yearly resume of staff activities should be compiled to include self-improvement activities, professional enhancement activities, professional activities relating to offices or committees, papers or speeches presented, and other special activities. It should be the policy of the institution that the staff be encouraged to be active professionally at local, state, and national levels.

STANDARD 15: THE PHYSICAL THERAPY STAFF AT THE CLINICAL CENTER MUST POSSESS THE EXPERTISE TO PROVIDE GOOD PATIENT CARE (OR SERVICE) AND MUST BE ADEQUATE IN NUMBER TO PROVIDE SIMULTANEOUSLY A GOOD EDUCATIONAL PROGRAM FOR STUDENTS.

Interpretation

Adequate clinical education can be planned for a student in a center with one physical therapist or more. The adequacy of numbers relates to the number of students accepted and the nature of the learning experiences and the activities of the agency. There should be an identified staffing pattern indicating the breadth of staff involvement on teams, groups, special programs, or special assignments. A daily schedule should be available showing the timing and sequence of events relating to patient care, service to other clients, administration, research, and other types of activities.

Student-staff ratio can vary according to the nature of the center and the nature of the staff, the level of the student, the type of student, and the length of the student's assignment. No more than two physical therapist assistant students should be assigned for a physical therapist to supervise. There should be an effective system of scheduling patients as well as an effective system of assigning students to staff members for all activities.

STANDARD 16: ONE PHYSICAL THERAPIST SHOULD BE RESPONSIBLE FOR COORDINATING THE ASSIGNMENTS AND ACTIVITIES OF THE STUDENTS AT THE CLINICAL EDUCATION SITE.

Interpretation

A physical therapist should be assigned as the CCCE and preferably should be recruited for the position. This individual should not only be proficient as a clinician, but also experienced in clinical education, interested in students and in education. The individual should possess good interpersonal relations skills and good organizational skills and should be knowledgable of the agency, its people, and its resources. The CCCE should be capable of and interested in pursuing and identifying additional resources for clinical education.

If the specific duties of the CCCE are not already included in a basic job description, a special job description should be developed for the individual (see Standard 12). Within the center there should be administrative support for the time and cost of implementing the responsibilities of the position.

STANDARD 17: SELECTION OF CLINICAL INSTRUCTORS SHOULD BE BASED ON SPECIFIC CRITERIA.

Interpretation

Physical therapists and physical therapist assistants who are CIs should be qualified to practice legally within the state; they should be interested in students and in the educational process. Only those who are willing should be assigned the responsibility. Normally at least a year of experience should be a prerequisite for a CI, but in special programs or in special areas of expertise less experience has proved to be satisfactory.

There should be evidence that the CI has received some special preparation or is willing to become better prepared for clinical teaching, working with students, and evaluating students. The personal characteristics of the individual are highly important in the selection of a CI. Willingness to work with students, availability to students, and ease in talking and working with students should be considered. If the specific responsibilities for the CI are not already included in a basic job description (see Standard 12), a special job description should be written for the purpose or new duties should be added to the basic job description of a staff physical therapist.

STANDARD 18: CLINICAL INSTRUCTORS SHOULD BE ABLE TO APPLY THE BASIC PRINCIPLES OF EDUCATION--TEACHING AND LEARNING--TO CLINICAL EDUCATION.

Interpretation

The academic institution and the clinical center should collaborate on arrangements for organizing and presenting materials on clinical teaching, clinical learning, and associated topics. The clinical center should have acceptable policies regarding release time, inservice education, and continuing education to benefit the CIs in becoming more effective and proficient as teachers in the clinical setting. The affiliating academic institution should contribute significantly to these endeavors for a new clinical education site and for continuing work with an established center.

STANDARD 19: SPECIAL EXPERTISE OF THE VARIOUS CLINICAL CENTER STAFF MEMBERS SHOULD BE SHARED WITH THE AFFILIATING STUDENTS.

Interpretation

Clinical center staff members in physical therapy and in other professional programs related to physical therapy possess special expertise which can broaden the horizon and competency of students. This special knowledge and expertise can be shared with students through rotating systems of assignment, team meetings, departmental case conferences, inservice education programs, lectures, demonstrations, and by observing individuals perform special procedures.

STANDARD 20: THE CLINICAL CENTER MUST BE COMMITTED TO THE PRINCIPLE OF EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION AS REQUIRED BY FEDERAL LEGISLATION.

Interpretation

All educational institutions must document evidence that they are in compliance with federal regulations. For educational programs that place students in external facilities for part of their education, each external agency is considered as a part of the educational program. Thus, in physical therapy education, each cooperating clinical center is part of the educational program, as defined by affirmative action, and must adhere to affirmative action policies.

The center must not knowingly discriminate on the basis of sex, race, color, religion, or national origin in recruiting, hiring, promotion, retention, training, benefits, and retirement of professional and nonprofessional personnel. In addition, the agency must not discriminate against affiliating students and must insure that each student is provided equal opportunities, learning experiences, and benefits.

CONCLUSION

The 20 standards above, along with their interpretations, have been developed as guidelines for establishment of sites for clinical education in physical therapy. They should be useful to the clinical centers as well as the academic institutions; they should be useful for developing new centers as well as for reassessing existing clinical education sites for physical therapy students.

An alphabetical list of references for Appendix B follows. Immediately thereafter are the self-assessment inventory and summary evaluation form referred to earlier, which are designed for facilitating application of the standards. In conclusion it should be emphasized that compliance with every item in the standards is not a requirement for approval as a clinical education site in physical therapy.

IV. LIST OF REFERENCES

1. American Medical Association: Essentials of an Acceptable School of Physical Therapy, Rev. to December 1955. 535 North Dearborn St., Chicago, Il. 60610.

2. American Physical Therapy Association: Code of Ethics and Guide for Professional Conduct. APTA, 1156 - 15th Street, N.W., Washington, D.C. 20005.

3. American Physical Therapy Association: Essentials of an Accredited Educational Program for the Physical Therapist. (Proposed.) Adopted by the APTA, House of Delegates, June 1974. Established by AMA, Council on Medical Education in collaboration with the APTA, 1156 - 15th Street, N.W., Washington, D.C. 20005.

4. American Physical Therapy Association: Handbook of Information Concerning Interim Approval of an Educational Program for the Physical Therapist Assistant, April 1975. Prepared by the staff, APTA Department of Educational Affairs, 1156 - 15th Street, N.W., Washington, D.C. 20005.

5. American Physical Therapy Association: Standards for Basic Education in Physical Therapy. Physical Therapy 52:5:521-525, May 1972. (Adopted by APTA Board of Directors, February 1971).

6. American Physical Therapy Association: Standards for Physical Therapy Services. Physical Therapy 51:12:1215-18, December 1971. (Adopted by APTA Board of Directors, February 1971).

7. American Physical Therapy Association: Surveyor's Handbook of Information Concerning the On-Site Evaluation of an Educational Program for the Physical Therapist, April 1975. Prepared by the APTA Department of Educational Affairs, 1156 - 15th Street, N.W., Washington, D.C. 20005.

8. Barr, J.S.: A Problem-Solving Curriculum Design in Physical Therapy. Ph.D. Dissertation, School of Education, University of North Carolina at Chapel Hill, 1975.

9. Dickinson, R., Dervitz, H.L., Meida, H.M.: Handbook for Physical Therapy Teachers. American Physical Therapy Association, 1156 - 15th Street, N.W., Washington, D.C. 20005, 1967.

10. Family Educational Rights and Privacy Act of 1974, U.S. Public Law 93-380.

11. Higher Education Act of 1972 and Executive Order 11246 as Amended by Executive Order 11375. Department of Health, Education, and Welfare, Washington, D.C.

12. Joint Commission on Accreditation of Hospitals. Accreditation Manual for Hospitals 1973. Hospital Accreditation Program, Chicago, Il.

13. Moore, M.L., Parker, M.M., Nourse, E.S.: Form and Function of Written Agreements in the Clinical Education of Health Professionals. Charles B. Slack, Inc., Thorofare, N.J., 1972.

14. Morrow, J.: Affirmative Action and Clinical Education--A Position Paper. Project on Clinical Education, Division of Physical Therapy, University of North Carolina at Chapel Hill. Department of Health, Education, and Welfare Contract NO. 1-AH-44112, 1976.

15. Scully, R.M.: Clinical Teaching of Physical Therapy Students in Clinical Education. Ph.D. Dissertation, Teachers College, Columbia University, New York, 1974.

SUPPLEMENTS TO

Standards for a Clinical Education Site in Physical Therapy

Pages

Self-Assessment for a Clinical Education Site in Physical Therapy . . . . B-27 - B-60

Summary Evaluation of a Clinical Education Site in Physical Therapy . . . . B-61 - B-65

Example of a Form for Assessment by Student . . . . B-66 - B-79

SELF-ASSESSMENT OF A CLINICAL EDUCATION SITE IN PHYSICAL THERAPY

PURPOSE

This inventory for self-assessment is designed to facilitate use of the Standards for a Clinical Education Site in Physical Therapy developed by the Project on Clinical Education. The assessment is intended to be useful to both the clinical center and the academic institution for development of new clinical education sites and for reassessment of existing clinical centers already utilized for physical therapy students.

INSTRUCTIONS TO THE CENTER

1. Complete the items which are appropriate and applicable for your center. Throughout the inventory, please use "NA" to indicate those items which are not applicable or not appropriate to your center.

2. Use as guidelines the document setting forth Standards for a Clinical Education Site and the interpretation accompanying each of the Standards.

3. When requested, please indicate if the written materials are available for review.

4. If the materials requested to be attached are not available, please explain.

5. Please attach additional pages when space is inadequate for your response.

A. IDENTIFICATION OF CENTER

A.1. Name of center____

A.2. Address____

________________________________A.3. Telephone____________

A.4. Type of center____

A.5. Accreditation status including date and by whom____________

____

B. ADMINISTRATIVE PERSONNEL

B.1. Name and address of Director of Physical Therapy*____________

____

____

B.2. To whom is the Director of Physical Therapy responsible:

B.2.1. For administrative matters (Name and Title)____________

____

B.2.2. For health care matters (Name and Title)____________

____

B.3. Advisory Committee (Names, Titles, and Frequency of Meetings)______

____

____

B.4. Medical Director if any (Name, Title, and Frequency of Contact)____

____

B.5. Center Coordinator of Clinical Education (Name)*____________

____

C. COMPLETION OF SELF-ASSESSMENT

C.1. Date Self-Assessment is completed____________________

*Please attach copy of curriculum vitae.

C.2. Signature of person responsible for completing Self-Assessment____

____

C.3. Title____

STANDARD 1: A CLINICAL CENTER'S PHILOSOPHY AND OBJECTIVES FOR PATIENT CARE AND EDUCATION MUST BE SIMILAR AND COMPATIBLE WITH THOSE OF THE EDUCATIONAL INSTITUTION.

1.1. Does your center have a statement of philosophy? Yes_____; No_____.

1.2. Does the center have a statement of objectives? Yes_____; No_____. If yes, does the statement include educational objectives? Yes_____; No_____.

1.3. Does the physical therapy service have its own statement of philosophy or purpose? Yes_____; No_____.

1.4. Does the physical therapy service have its own statement of objectives? Yes_____; No_____. Does the statement include educational objectives? Yes_____; No_____. When were the objectives most recently revised? _______________________.

1.5. Do you have written standards and policies for physical therapy services? Yes_____; No_____.

1.6. Do you have written procedures for patient care plans? Yes_____; No_____.

1.7. Do the written procedures include a policy for:

    1.7.1. Referrals? Yes_____; No_____.
    1.7.2. Role of staff members? Yes_____; No_____.
    1.7.3. Role of students? Yes_____; No_____.

1.8. Does your physical therapy service have written objectives for clinical education? Yes_____; No_____.

1.9. If yes, are the objectives flexible to accommodate:

    1.9.1. Student's objectives? Yes_____; No_____.
    1.9.2. Students at different levels? Yes_____; No_____.
    1.9.3. School's objectives for specific experiences? Yes_____; No_____.

1.10. Does your center have written long-range plans? Yes_____; No_____.

1.11. Does your physical therapy service have written long-range plans? Yes_____; No_____. Date of latest revision__________________________.

(Standard 1 cont.)

After reviewing the philosophy, curriculum objectives, objectives for clinical education, and objectives for specific experiences as applicable from the academic institution:

1.12. Do you believe your center's philosophy and objectives are compatible with those of the academic institution? Yes_____; No_____; Partially_____.

1.13. Do you believe the physical therapy service philosophy and objectives are compatible with those of the academic institution? Yes_____; No_____; Partially_____.

1.14. If your answer is no or partially, would you be willing to discuss the differences to determine whether or not there is sufficient accord to pursue a program of clinical education? Yes_____; No_____.

STANDARD 2: A CLINICAL CENTER MUST DEMONSTRATE ADMINISTRATIVE SUPPORT AND INTEREST IN PHYSICAL THERAPY EDUCATION.

2.1. Do you have a written table of organization for the center and for the physical therapy service which shows the line and staff relationships of the staff members and to whom the student will be responsible while assigned to the center? Yes_____; No_____. Please attach.

2.2. Does the center support programs of education for students within its own institution (e.g., radiologic technology, surgical assistant, etc.)? Yes_____; No_____. If yes, please list.

2.3. Does your center's administration sponsor inservice education programs for:

2.3.1. Administration? Yes_____; No_____.

2.3.2. Middle Management? Yes_____; No_____.

2.3.3. Supervision? Yes_____; No_____.

2.3.4. Teaching? Yes_____; No_____.

2.4. Does your center provide support for inservice education programs for physical therapy staff? Yes_____; No_____. If yes, please attach list of physical therapy inservice education programs scheduled during the past one to two years.

2.5. Does your center provide financial support for physical therapy staff to attend programs of continuing education? Yes_____; No_____.

(Standard 2 cont.)

2.6. Does your physical therapy service have clinical affiliation with other academic institutions? Yes_____; No_____. If yes, please list:

2.7. Have written agreements been negotiated with any other educational institution? Yes_____; No_____.

2.8. Are you satisfied with the degree of interest your center administrator has demonstrated in education for all levels of PT personnel? Yes_____; No_____.

2.9. Are you satisfied with the degree of accessibility you have to administration? Yes_____; No_____. Describe:

STANDARD 3: COMMUNICATIONS WITHIN THE CLINICAL CENTER SHOULD BE EFFECTIVE AND POSITIVE.

3.1. Evaluate the effectiveness of the communication between the physical therapy service and others as: (S) Satisfactory, (M) Marginal, or (U) Unsatisfactory. Describe methods utilized:

3.1.1. Administration: _____ S,M,U

Methods:

3.1.2. Physicians: _____ S,M,U

Methods:

3.1.3. Referral Agencies: _____ S,M,U

Methods:

3.1.4. Patients: _____ S,M,U

Methods:

(Standard 3 cont.)

3.1.5. Occupational Therapy: ____
S,M,U

Methods:

3.1.6. Social Services: ____
S,M,U

Methods:

3.1.7. Nursing Services and Patient Care Personnel: ____
S,M,U

Methods:

3.1.8. Others:

Methods:

3.2. Evaluate the effectiveness of communication within the service:

3.2.1. Between individuals: ____
S,M,U

Methods:

3.2.2. Concerning administrative policies and procedures: ____
S,M,U

Methods:

3.3. Do you have organized procedures for orientation of students?
Yes_____; No_____.

3.4. What ways are utilized to maintain communication with students?

3.4.1. Before arrival:____.

3.4.2. Immediately upon arrival: ______________________________.

3.4.3. Continuance throughout clinical experience:______________.

3.5. List professional activities of your staff not related to direct patient care:

3.5.1. Within your institution:

(Standard 3 cont.)

3.5.2. Within your service:

STANDARD 4: THE PHYSICAL THERAPY SERVICE SHOULD PROVIDE AN ACTIVE, STIMULATING ENVIRONMENT APPROPRIATE FOR THE LEARNING NEEDS OF THE STUDENT.

4.1. Evaluate morale of staff on the physical therapy service: Excellent_____; Sometimes low_____; Needs attention_____.

4.2. Evaluate morale of staff in the center: Excellent_____; Sometimes low_____; Needs attention_____.

4.3. Do you prepare official reports for the physical therapy service? Yes_____; No_____. Monthly_____; Annually_____. Please attach the most recent annual report. Are these reports accessible to the student? Yes_____; No_____.

4.4. If you prepare reports, do they include:

4.4.1. Patient statistics? Yes_____; No_____.

4.4.2. Activities with other departments related to patient care? Yes_____; No_____.

4.4.3. Activities rendered to other departments not related to patient care? Yes_____; No_____.

4.4.4. Activities outside the center? Yes_____; No_____.

4.4.5. Teaching activities? Yes_____; No_____.

4.4.6. Others? (list)

4.5. Does the center have a procedure manual? Yes_____; No_____.

4.5.1. If yes, is it readily available to all staff members? Yes_____; No_____.

4.5.2. If yes, is it readily available to the students? Yes_____; No_____.

4.6. Do you have a manual for physical therapy administrative procedures? Yes_____; No_____. Available to students? Yes_____; No_____.

(Standard 4 cont.)

4.7. Do you have a manual for physical therapy procedures (for other than patient care plans)? Yes_____; No_____. Available to students? Yes_____; No_____.

4.8. Please attach description of space available for exclusive use of physical therapy service. Evaluate: Adequate for present service needs _____; Adequate for student affiliations_____. (Yes; No)

4.9. Please attach description of space outside of physical therapy, available for use on scheduled basis.

4.10. Describe your equipment in relation to:

4.10.1. Type of patients treated: Adequate_____; Inadequate_____.

Comment:

4.10.2. Physical therapy procedures: Adequate_____; Inadequate_____.

Comment:

4.10.3. Modern, up to date: Adequate_____; Inadequate_____.

Comment:

4.10.4. Maintenance or calibration: Adequate_____; Inadequate_____.

Comment:

4.10.5. Budget for new equipment: Adequate_____; Inadequate_____.

Comment:

STANDARD 5: THE PHYSICAL THERAPY SERVICE SHOULD HAVE AN ACTIVE AND VIABLE PROCESS OF INTERNAL EVALUATION OF ITS OWN AFFAIRS AND SHOULD BE RECEPTIVE TO PROCEDURES OF REVIEW AND AUDIT APPROVED BY APPROPRIATE EXTERNAL AGENCIES.

5.1. Do you routinely analyze monthly reports? Yes_____; No_____. Annual reports? Yes_____; No_____. Please attach latest annual report.

5.1.1. Source and type of referrals: Yes_____; No_____.

5.1.2. Physical therapy procedures in relation to referrals: Yes_____; No_____.

5.1.3. Physical therapy procedures as related to utilization and need of space: Yes_____; No_____.

5.1.4. Equipment: Yes_____; No_____.

5.1.5. Personnel in relation to number of patient visits and treatment procedures: Yes_____; No_____.

5.1.6. Record-keeping procedures: Yes_____; No_____.

5.1.7. Staff activities: Yes_____; No_____.

5.1.8. Other, list:

5.2. Do you have procedures for internal review and evaluation of services?

5.2.1. Administrative procedures: Yes_____; No_____.

5.2.2. Personnel involved in service: Yes_____; No_____.

5.2.3. Types of service rendered: Yes_____; No_____.

5.2.4. Utilization review: Yes_____; No_____.

5.2.5. Peer review mechanism: Yes_____; No_____.

5.2.6. Other, list:

5.3. Do you have procedures for periodic review of:

5.3.1. Objectives for the department? Yes_____; No_____.

5.3.2. Standards of practice for your service? Yes_____; No_____.

(Standard 5 cont.)

5.3.3. Patient care plans? Yes_____; No_____.

5.3.4. Objectives for clinical education? Yes_____; No_____.

5.4. What methods are utilized for external review and evaluation?

5.4.1. Utilization review:____.

5.4.2. Medical unit:____.

5.4.3. Peer review:____.

5.4.4. Other:____.

5.5. Evaluation of budget and fiscal responsibilities:

5.5.1. Do you have a budget according to programs? Yes_____; No_____.

5.5.2. Is your budget by line-items? Yes_____; No_____.

5.5.3. Are your line-items: flexible_____; inflexible_____.

5.5.4. Do you have direct input into development of your budget? Yes_____; No_____.

5.5.5. Do you have a procedure for periodic internal review of your budget? Yes_____; No_____.

5.5.6. Is there a procedure for periodic external review of your budget? Yes_____; No_____.

5.5.7. Are methods of cost accounting utilized for physical therapy? Yes_____; No_____.

5.5.8. Is your budget information computerized so that you receive printouts on a regular basis? Yes_____; No_____.

5.6. Do you have procedures for evaluating educational programs at regular intervals? Yes_____; No_____.

5.6.1. On-the-job training programs? Yes_____; No_____.

5.6.2. Inservice education programs? Yes_____; No_____.

5.6.3. Clinical education programs offered to various levels of students in physical therapy? Yes_____; No_____.

STANDARD 6: THE VARIOUS CONSUMERS SHOULD BE SATISFIED THAT THEIR NEEDS FOR PHYSICAL THERAPY SERVICE HAVE BEEN MET.

6.1. Do you have mechanisms whereby consumers participate in evaluation of your physical therapy services? Patients_____; Physicians_____; Referral agencies_____; Students_____; Others, list:

6.2. Records and Reports:

6.2.1. Do the physical therapists write notes directly in the medical records of the patients? Yes_____; No_____.

6.2.2. Is the problem-oriented record system utilized by everyone in your center? Yes_____; No_____. If no, by some services? Yes_____; No_____. If yes, please list services:

6.2.3. Are the patient's charts available to you? Daily_____; As often as you desire_____; Seldom_____; Never_____.

6.2.4. Do the patient's charts contain information adequate for your needs? Yes_____; No_____; Partially_____.

6.2.5. Are the students responsible for notes related to their patients? Yes_____; No_____. Explain:

6.2.6. What portion of records and reports concerned with patient care is on the computer? All_____; Part____.
List:

6.2.7. Is the information available to you as printouts? On a regular basis_____; As requested_____.

6.3. Patient Care Plan:

6.3.1. Is there a specific plan in writing for developing the patient care plan? Yes_____; No_____.

6.3.2. Describe procedure from referral to discharge:

6.3.3. Describe procedure and extent of follow-up care:

(Standard 6 cont.)

6.3.4. Are activities of the patient care plan coordinated within the physical therapy service? Routinely_____; As indicated_____; Seldom_____.

6.3.5. Are activities of the patient care plan coordinated with other services within the center? Routinely_____; As indicated_____; Seldom_____.

6.3.6. What methods are utilized in evaluation of your patient care plan?

6.4. Is there a specific procedure for internal audit or peer review of patient's records? Yes_____; No_____.

6.5. Are members of your staff involved in special studies or research activities for the primary purpose of evaluating various aspects of physical therapy services? Yes_____; No_____. If yes, list:

6.6. Do you consider staff turnover a problem at your physical therapy service? Yes_____; No_____. In your center? Yes_____; No_____. If yes, explain:

STANDARD 7: SELECTED SUPPORT SERVICES SHOULD BE AVAILABLE TO AFFILIATING STUDENTS.

7.1. Is the student notified in advance of the center's requirements concerning:

7.1.1. Health insurance? Yes_____; No_____.

7.1.2. Professional liability insurance? Yes_____; No_____.

7.1.3. Uniform policies? Yes_____; No_____.

7.1.4. Other? (list)

7.2. Is the student given advance written information as to:

7.2.1. Availability, limitations, cost of support services? Yes_____; No_____.

7.2.2. How to secure assistance in obtaining the services desired? Yes_____; No_____.

(Standard 7 cont.)

7.3. Please give information relating to these support services as appropriate. If not provided, please indicate if assistance will be given to the student in locating the service elsewhere (e.g., room and board).

Support service	Available		Estimated cost to student	Assistance available	Comments on limitations
	Yes	No			
7.3.1. Emergency medical care					
7.3.2. Health services					
7.3.3. Pharmaceutical supplies					
7.3.4. Room					
7.3.5. Board					
7.3.6. Commissary privilege					
7.3.7. Laundry					
7.3.8. Parking					
7.3.9. Special transportation					
7.3.10. Educational media and equipment					
7.3.11. Copy machine					
7.3.12. Research resources; equipment; statistician; computer services					
7.3.13. Stipend or reimbursement for expenses					
7.3.14. Other					

STANDARD 8: ADEQUATE SPACE FOR STUDY, CONFERENCES, AND TREATING PATIENTS SHOULD BE AVAILABLE TO AFFILIATING STUDENTS.

8.1. For the following list of space arrangements, check yes for those available and comment as to their adequacy. Check no if inadequate; describe the method of contending with existing arrangements.

8.1.1. Lockers assigned to students: Yes_____; No_____.

8.1.2. Place assigned to students to secure personal belongings: Yes_____; No_____.

8.1.3. Space to accommodate students for treating patients: Yes_____; No_____.

8.1.4. A designated charting area for students in or near the treatment area: Yes_____; No_____.

8.1.5. A quiet study area available for students
during working hours: Yes_____; No_____.
after working hours: Yes_____; No_____.

8.1.6. Library facilities available
during working hours: Yes_____; No_____.
after working hours: Yes_____; No_____.

8.1.7. A designated private area for counseling clinical instructor and student: Yes_____; No_____.

8.1.8. Classroom or conference room for small group sessions and staff meetings: Yes_____; No_____.

8.1.9. Lounge area available to students: Yes_____; No_____.

STANDARD 9: PROGRAMS FOR AFFILIATING STUDENTS SHOULD BE PLANNED TO MEET SPECIFIC OBJECTIVES OF THE CURRICULUM, THE CLINICAL CENTER, AND THE INDIVIDUAL STUDENT.

9.1. Have the director of the physical therapy service, the center coordinator of clinical education, and the clinical instructors all been involved in the preparation of objectives for clinical education? Yes_____; No_____.

9.2. If yes, are they all in agreement as to the learning experiences available on the physical therapy service? Yes_____; No_____; Partially_____.

9.3. Has the center coordinator of clinical education discussed the clinical education opportunities available at the center with other appropriate staff members? Yes_____; No_____.

9.4. Are the possible learning experiences for clinical education outlined in writing and available to the academic coordinators of clinical education and to the student? Yes_____; No_____.

9.5. Are the possible programs and options available to the student outlined in writing and available to the academic coordinators of clinical education and to the students? Yes_____; No_____.

9.6. Are all members of the physical therapy staff who will be involved with clinical education familiar with the academic institution's objectives for the curriculum and for clinical education? Yes_____; No_____; Partially_____. If not yes, explain:

9.7. Has the academic coordinator of clinical education visited the center? Yes_____; No_____.

9.8. Has the academic coordinator of clinical education met appropriate administrative representatives? Yes_____; No_____. Members of other departments? Yes_____; No_____. Appropriate members of the staff of the physical therapy service? Yes_____; No_____.

9.9. Is the academic coordinator of clinical education kept informed of changes as they occur in the programs and staff of the center? Yes_____; No_____; Sometimes_____.

9.10. Does the academic coordinator of clinical education discuss the student's objectives with the center coordinator of clinical education before specific assignments are made? Yes_____; No_____.

9.11. Does the center coordinator of clinical education discuss with the student his/her objectives for this experience prior to finalizing the specific learning experiences? Yes_____; No_____.

(Standard 9 cont.)

9.12. Has the center coordinator of clinical education included learning experiences in areas other than direct patient care?

Other learning experiences	Yes	No	Comments
9.12.1. Supervision			
9.12.2. Teaching			
9.12.3. Administration			
9.12.4. Budgeting			
9.12.5. Research			
9.12.6. Program planning			
9.12.7. Professional growth			
9.12.8. Interdepartmental relationships			
9.12.9. Interpersonal relationships			
9.12.10. Consultation			
9.12.11. Others			

9.13. Have the center coordinator of clinical education and the academic coordinator of clinical education discussed the needs of the clinical center regarding the following items? Insert yes or no: reference materials_____; equipment_____; educational media_____; other_____.

9.14. Are the arrangements as to schedule, length of time, arrival time, housing, transportation, available learning experiences all been verified in writing prior to the arrival of the student? Yes_____; No_____.

9.15. Are plans established for continuous liaison and communication between the staff of the clinical center and the staff at the academic institution? Yes_____; No_____.

(Standard 9 cont.)

9.16. Evaluation of student performance:

9.16.1. Are the clinical instructors willing to provide feedback to students as evaluation of performance throughout the clinical experience? Yes_____; No_____.

9.16.2. Are the clinical instructors willing to complete a final form for evaluation of the student to be returned to the academic coordinator of clinical education? Yes_____; No_____.

9.16.3. For reporting the final evaluation of the student's performance, do you use the form provided by the educational institution? Yes_____; No_____.

9.16.4. For reporting the final evaluation of the student's performance, do you prefer to use a form the clinical instructors have developed specific to the center? Yes_____; No_____.

STANDARD 10: THE CLINICAL CENTER MUST HAVE A VARIETY OF LEARNING EXPERIENCES AVAILABLE TO AFFILIATING STUDENTS.

10.1. Please check, for each level of student, the learning experiences available at your center. We recognize there will be overlap and differences in interpretation as to meaning.

Student: PT (physical therapist); PTA (physical therapist assistant).
Level: B (beginning); I (intermediate); A (advanced); Gr (graduate).

In the last columns, please indicate by check mark, where applicable, an evaluation as to quality: E (excellent);G (good); A (adequate); M (marginal).

Learning experiences	PT				PTA			Quality			
	B	I	A	Gr	B	I	A	E	G	A	M
Acute Adult											
Acute children											
Chronic adult											
Chronic children											
Cardiac rehabilitation											
Respiratory rehabilitation											
Burn unit											
Amputees											
Mental retardation											
Other special programs											
Early intervention											
Screening patients											
Evaluating patients											
Planning treatment programs											
Implementing treatment programs											

(Standard 10 cont.)

Learning experiences	PT				PTA			Quality			
	B	I	A	Gr	B	I	A	E	G	A	M
Referral for out-of-hospital follow-up care											
Rounds											
Case conferences											
Team-care meetings											
Outpatient clinics											
Observation in surgery											
Service given:											
-bedside											
-physical therapy service											
-home											
-outpatient clinic											
Department meetings											
Committee meetings											
Department planning sessions											
Special education programs											
Inservice education											
Teaching											
Developing teaching materials											
Supervision											
Administration											
Professional growth											
Independent study projects											

(Standard 10 cont.)

Learning experiences	PT				PTA			Quality			
	B	I	A	Gr	B	I	A	E	G	A	M
Inservice education (planning, presenting, and demonstrating)											
Continuing education (planning, presenting, demonstrating, budgeting)											
Program planning (establish need; manpower; budget; recruitment)											
Communications skills (verbal and written)											
Research activities: - Departmental											
- Student's own											
Interdepartmental relationships											
Interagency relationships											
Interpersonal relationships											
Interdisciplinary activities											
Community activities											
Others:											

(Standard 10 cont.)

10.2. Regardless of level or type of student, what is the total number of students you can accommodate at any one time?______________________.

10.3. How many students at each level of experience can you accommodate each month?

Month	Physical Therapist				Physical Therapist Assistant			
	Beginning	Intermediate	Advanced	Total	Beginning	Intermediate	Advanced	Total
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								

10.4. What is the length of time you will accept students for full-time experience?

Physical therapist: minimum_____; maximum_____; desired_____.

Physical therapist assistant: minimum_____; maximum_____; desired_____.

STANDARD 11: THE STAFF OF THE CLINICAL CENTER MUST MAINTAIN ETHICAL STANDARDS OF PRACTICE.

11.1. Does your center have a written policy for ethical standards of practice, including:

- 11.1.1. Patient's Bill of Rights? Yes_____; No_____.
- 11.1.2. Release of confidential information? Yes_____; No_____.
- 11.1.3. Permission for photographing? Yes_____; No_____.
- 11.1.4. Clinical research (human rights)? Yes_____; No_____.
- 11.1.5. Newspaper reporting? Yes_____; No_____.

11.2. Does the center have a policy for peer review of ethical practices? Yes_____; No_____.

11.3. Does the center have a mechanism for reporting unethical practices? Yes_____; No_____.

11.4. Do you have available at the physical therapy service a copy of the Code of Ethics and Guide for Professional Conduct of the American Physical Therapy Association? Yes_____; No_____.

11.5. Do you include information concerning these policies in your orientation for new staff members? Yes_____; No_____.

11.6. Were these policies reviewed as a part of inservice education during the past year? Yes_____; No_____.

11.7. Are these policies included in the orientation for affiliating students? Yes_____; No_____.

11.8. Are copies of the policies available to the student? Yes_____; No_____.

STANDARD 12: ROLES OF THE VARIOUS TYPES OF PHYSICAL THERAPY PERSONNEL AT THE CLINICAL CENTER MUST BE CLEARLY DEFINED AND DISTINGUISHED FROM ONE ANOTHER.

12.1. Do you have job descriptions for each level of personnel in physical therapy? Yes_____; No_____. If job descriptions are available, please attach; include date they were developed or revised.

12.2. If job descriptions are not available, please list levels of personnel in physical therapy:

(Standard 12 cont.)

12.3. Are the relationships and roles of the physical therapist and the physical therapist assistant students and the staff physical therapist, physical therapist assistant, and aides clearly defined so that each person understands responsibilities and understands to whom he/she is responsible? Yes_____; No_____. Explain:

12.4. Do you have established policies for review and revision of job descriptions for each level of personnel in physical therapy? Yes_____; No_____. When were they last reviewed?______________________________

12.5. Are copies of the job descriptions a part of the administrative manual? Yes_____; No_____.

12.6. Are copies of the job descriptions accessible to all staff members? Yes_____; No_____. To all students? Yes_____; No_____.

STANDARD 13: THERE SHOULD BE AN ACTIVE STAFF DEVELOPMENT PROGRAM FOR THE CLINICAL CENTER.

13.1. Does the clinical center have a regular, organized policy for staff development?

13.1.1. On-the-job training:
-Physical therapy staff? Yes_____; No_____.
-Physical therapy supportive personnel? Yes_____; No_____.

13.1.2. Inservice education within the service for staff? Yes_____; No_____.

13.1.3. Continuing education (sponsored by your center or your physical therapy service)? Yes_____; No_____.

13.1.4. Does your center support members of the staff in attending programs of continuing education from your center?
-Time release: Yes_____; No_____.
-Financially: Yes_____; No_____. If yes, is the financial support adequate considering the overall financial condition of your center? Yes_____; No_____.

13.2. Do you have library facilities and other reference opportunities available to the physical therapy personnel? Yes_____; No_____. If yes, are they adequate? Yes_____; No_____. Available during working hours? Yes_____; No_____. After working hours? Yes_____; No_____.

(Standard 13 cont.)

13.3. Does your staff have the opportunity to enroll in graduate work for credit? Yes_____; No_____. If yes, is tuition free ? Yes_____; No_____. Time compensated? Yes_____; No_____.
Other: (list)____.

13.4. Are members of your staff willing and able to attend clinical faculty meetings sponsored by the academic institution? Yes_____; No_____. If yes: At no expense? Yes_____; No_____. At center's expense? Yes_____; No_____. At own expense? Yes_____; No_____. Shared expense? Yes_____; No_____.

STANDARD 14: THE PHYSICAL THERAPY STAFF AT THE CLINICAL CENTER SHOULD BE INTERESTED AND ACTIVE IN PROFESSIONAL ASSOCIATIONS.

14.1. Is your staff encouraged and given the opportunity to participate in the following activities? (Write in yes or no)

14.1.1. Professional activities, APTA_____; Section_____; Chapter_____; District_____.

14.1.2. Other professional organizations_____. List:

14.1.3. Community activities_____. List:

14.1.4. National activities (Not APTA)_____. List:

14.2. While the students are with your center, will they be aware of your staff's involvement in professional and community activities as a professional responsibility? Yes_____; No_____; Perhaps_____.
If yes, by what methods? List:

STANDARD 15: THE PHYSICAL THERAPY STAFF AT THE CLINICAL CENTER MUST POSSESS THE EXPERTISE TO PROVIDE GOOD PATIENT CARE (OR SERVICE) AND MUST BE ADEQUATE IN NUMBER TO PROVIDE SIMULTANEOUSLY A GOOD EDUCATIONAL PROGRAM FOR STUDENTS.

15.1. Briefly elaborate on your staffing pattern. How is your staff organized to take care of service responsibility?

15.2. Does your staff have adequate time, in addition to service responsibility, to assume responsibilities for education of students?
Yes_____; No_____; Not ideal_____; Not enough time_____; Would like more time_____.

15.3. Circle the number of days your department is open for service to patients: 5, 5-1/2, 6, 6-1/2, 7 days per week.

15.4. The workday is from _____a.m. to_____p.m., ________ days, and
5, 6, 7
from_____a.m. to_____p.m. half-day____________________.
Sat. or Sun.

15.5. Do your organizational arrangement and workweek appear to be satisfactory for the service needs of your clients or patients?
Yes_____; No_____. If not, what arrangements would you prefer?

15.6. What is your preferred staff to student ratio for each level? (Write in 1 to 1 student; 1 to 2 students; 1 to 3 students)

PT: Beginning_____; Intermediate_____; Advanced_____.

PTA: Beginning_____; Intermediate_____; Advanced_____.

STANDARD 16: ONE PHYSICAL THERAPIST SHOULD BE RESPONSIBLE FOR COORDINATING THE ASSIGNMENTS AND ACTIVITIES OF THE STUDENTS.

16.1. Is the responsibility for the center's coordination of clinical education delegated to one individual? Yes_____; No_____. If not, describe the method for assigning responsibility for this function:

16.2. Was this staff member recruited specifically for this responsibility? Yes_____; No_____.

16.3. Does the administrative support given to the center coordinator of clinical education include appropriate: Time? Yes_____; No_____. Special training? Yes_____; No_____. Financial support? Yes_____; No_____. Relief from patient care? Yes_____; No_____. Other? Yes_____; No_____.

16.4. Is this position at a classified level higher than for the regular staff person? Yes_____; No_____.

16.5. Do the job descriptions requested in Standard 12.1 include the responsibility for the center's coordination of clinical education? Yes_____; No_____. If not, explain.

STANDARD 17: SELECTION OF CLINICAL INSTRUCTORS SHOULD BE BASED ON SPECIFIC CRITERIA.

17.1. List the criteria your physical therapy service considers to be minimum for selecting a clinician to teach and supervise students. If the qualifications vary for different levels of students or for specific learning experiences, please explain:

(Standard 17 cont.)

17.2. Would you like to be able to upgrade the minimum criteria? Yes_____. To do so would require: money_____; continuing education_____; additional staff_____.

No_____, satisfied with present criteria.

17.3. Do clinicians with your service have specific preparation preceding assuming responsibility for teaching, supervision, and evaluation of students? Yes_____; No_____. If no, should the academic institution offer a program to prepare clinical instructors?
Yes_____; No_____.

17.4. Have all of the physical therapy staff members who will be responsible for clinical education of students demonstrated a willingness to participate in the ongoing process of teaching? Yes_____; No_____.

If any staff member who is assigned to teach students is not willing to assume this responsibility, the center coordinator of clinical education should discuss this fact with the academic coordinator of clinical education.

17.5. Please provide the information requested on the form on the following page for each of the clinical instructors on your service.

(See Item 17.5)

CLINICAL INSTRUCTORS PARTICIPATING IN CLINICAL EDUCATION
(PHYSICAL THERAPISTS AND PHYSICAL THERAPIST ASSISTANTS)

Please list name(s) alphabetically	Title or job level or classification	Degree(s) and date received	Years of clinical		Primary responsibilities	Specialty interest area	APTA member (Yes or No)	Continuing education courses (past 2 years)
			experience	teaching				

STANDARD 18: THE CLINICAL INSTRUCTORS SHOULD BE ABLE TO APPLY THE BASIC PRINCIPLES OF EDUCATION--TEACHING AND LEARNING--TO CLINICAL EDUCATION.

18.1. What opportunities are available to assist your clinical instructors in becoming more proficient in applying basic principles of education to clinical teaching?

18.1.1. Time relief to study on the job: Yes_____; No_____.

18.1.2. Library reference materials in education: Yes_____; No_____.

18.1.3. Conference proceedings related to clinical teaching: Yes_____; No_____.

18.1.4. Self-instructional packages: Yes_____; No_____.

18.1.5. Handbook for Physical Therapy Teachers: Yes_____; No_____.

18.1.6. Inservice education programs:
with own staff as instructors: Yes_____; No_____.
with physical therapy instructors from educational institutions: Yes_____; No_____.

18.1.7. Workshop sponsored by educational institution: Yes_____; No_____.

18.1.8. Consultation services available from educational institutions: Yes_____; No_____.

18.2. Does the administration in your center support you and your staff in participating in continuing education programs and clinical faculty conferences for the purpose of improving your skills in clinical teaching? Time relief: Yes_____; No_____. Financial: Yes_____; No_____. Other ways: Yes_____; No_____. Specify:

18.3. Describe the clinical instructor's role in:

18.3.1. Establishing objectives with students:

18.3.2. Planning learning activities:

18.3.3. Evaluating students' performance:

18.3.4. Counseling students:

(Standard 18 cont.)

18.4. What methods are used to assure feedback to students?

STANDARD 19: SPECIAL EXPERTISE OF THE VARIOUS CLINICAL CENTER STAFF MEMBERS SHOULD BE SHARED WITH THE AFFILIATING STUDENTS.

19.1. Attach a list of the areas of expertise of the physical therapy staff members and indicate the methods of sharing this expertise with students in the clinical setting.

Comment on the extent to which the expertise is shared.

19.2. Attach a list of the areas of expertise for staff members in other professional programs related to physical therapy and indicate methods of sharing their expertise with physical therapy students in the clinical setting.

Comment on the extent to which this expertise is shared.

STANDARD 20: THE CLINICAL CENTER MUST BE COMMITTED TO THE PRINCIPLE OF EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION AS REQUIRED BY FEDERAL LEGISLATION.

20.1. Does the center comply with federal legislation which in effect prohibits discrimination on the basis of race, color, religion, national origin, and sex? Yes_____; No_____.

20.1.1. Does your center have an affirmative action plan? Yes_____; No_____.

(Standard 20 cont.)

20.1.2. Are members of your staff familiar with the affirmative action plan in your institution? Yes_____; No_____.

20.1.3. Has your department received information related to civil rights legislation and provisions of affirmative action? Yes_____; No_____.

20.2. Will your center accept students regardless of sex, race, color, religion, and national origin? Yes_____; No_____.

20.2.1. Will each student be provided equal opportunities, learning experiences, and benefits? Yes_____; No_____.

20.2.2. Will each student's performance be evaluated without regard to sex, race, color, religion, and national origin? Yes_____; No_____.

20.2.3. In assignment of students to learning experiences where numbers must be limited, do you have documented a nondiscrimnatory plan for assignment? Yes_____; No_____.

CHECKLIST FOR ATTACHMENTS REQUESTED
(Please check as appropriate)

Item	Attachment	Attached	Not available	Not applicable
B.	Curriculum Vitae:			
B.1.	Director of Physical Therapy			
B.6.	Center Coordinator of Clinical Education			
1.7.	Written objectives for clinical education			
2.4.	List of inservice education programs			
2.6.	List of academic institutions with which affiliated			
2.1.	Table of organization for service			
4.3.	Annual report			
4.8. 4.9.	Description of physical therapy space			
12.1.	Job descriptions			
19.1. 19.2.	List areas of expertise and methods of sharing			

CHECKLIST OF MATERIAL AVAILABLE AT THE CLINICAL CENTER FOR REVIEW
(Please check who may have access to existing materials.)

Item	Does not exist	Available for review by			
		Physical Therapy Director	Physical Therapy Staff	ACCE	Students
CENTER 1.1. Statement of philosophy					
1.2. Statement of objectives					
1.2. Educational objectives					
1.10. Long-range plans					
4.5. Manual of procedures					
PHYSICAL THERAPY SERVICE 1.3. Statement of philosophy					
1.4. Statement of objectives					
1.5. Written standards of practice					
1.6. Written procedures for patient care plans					
4.6. Manual for administrative procedures					
1.11. Long-range plans					
4.7. Manual for physical therapy procedures (other than patient care plans)					

SUMMARY EVALUATION OF A CLINICAL EDUCATION SITE IN PHYSICAL THERAPY

INSTRUCTIONS

To the Clinical Center: After completing the Self-Assessment, you and your colleagues at the clinical center should summarize your own findings as to strengths and weaknesses. In addition, you may want to indicate changes you wish to initiate and how these changes will be effected. Include a timetable for completing the improvements.

To the Educational Institution: After reviewing the Self-Assessment completed by the clinical center and other relevant materials, and perhaps making a personal visit to the center, your academic coordinator of clinical education may want to use this form to summarize the findings and report as to strengths and weaknesses, suggestions for improvement, and other matters concerning the status of the clinical center as a site for clinical education in physical therapy.

PURPOSE

This summary evaluation should be useful to:

--Center coordinator of clinical education, director of the physical therapy service, and administrators of the clinical center as a periodic evaluation of their program of clinical education

--Academic coordinator of clinical education and director of physical therapy curricula as an evaluation of clinical education sites available or utilized for clinical education

--Students in their selection of a clinical education site to meet their objectives and interests for clinical experience

A. IDENTIFICATION OF CENTER

A.1. Name of center______________________________________

A.2. Address____

_________________________ A.3. Telephone______________

A.4. Type of center______________________________________

A.5. Accreditation status including date and by whom______________

____

B. ADMINISTRATIVE PERSONNEL

B.1. Name and address of Director of Physical Therapy______________

____

____

B.2. Center Coordinator of Clinical Education (Name)______________

____

C. COMPLETION OF SELF-ASSESSMENT

C.1. Date Self-Assessment completed____________________________

C.2. Signature of person responsible for completing Self-Assessment

____

C.3. Title____

D. COMPLETION OF SUMMARY EVALUATION

D.1. Date Summary Evaluation completed__________________________

D.2. Signature of person responsible for completing Summary Evaluation

____

D.3. Title____

Considering the Basic Principles of Clinical Education and the Standards for a Clinical Education Site in Physical Therapy as guidelines, review the information available from the Self-Assessment of a Clinical Education Site. Comment in each applicable area as to strengths, weaknesses, and adequacy of the center as a clinical education site for both types of physical therapy students.

1. Clinical Center (as a whole): Philosophy, Objectives, Support of and Interest in Education

2. Physical Therapy Service: Philosophy, Objectives, Support of and Interest in a Program of Clinical Education

3. Learning Experiences and Environment for Learning

4. Support Services and Space for Students

5. Staff: Administrative Skills, Clinical Competencies, Areas of Expertise

6. Staff: Teaching Competencies and Interest in Clinical Education

7. Criteria for Selection of Clinical Staff and Clinical Instructors

8. Ethical Practice and Involvement in Professional Activities

9. Procedures for Practice, Administrative Procedures, Methods of Internal Evaluation Utilized in the Center

10. Commitment of Clinical Center to Equal Opportunity and Affirmative Action

SUMMARY

A. Strengths as a Clinical Education Site

B. Weaknesses as a Clinical Education Site

C. Suggestions for Strengthening Program for Clinical Education

D. Recommendation as Clinical Education Site in Physical Therapy
(specify type and level of student and limitations if any)

E. Recommendation for Next Action and/or Communication

Signature

Title

Date

NOTE

As a special supplement to the Standards for a Clinical Education Site in Physical Therapy, the following pages present an example of a form for assessment by the student. The device was developed by Mabel M. Parker, Associate Professor, Division of Physical Therapy, University of North Carolina at Chapel Hill and included with her permission.

ACADEMIC CENTER
STUDENT'S EVALUATION
CLINICAL EDUCATION EXPERIENCE

PART I. EVALUATION OF INDIVIDUAL ASSIGNMENT

PART II. OVERVIEW OF TOTAL EXPERIENCE

Student ______________________________

SCHEDULE OF ASSIGNMENTS

____
Dates Place

____
Dates Place

____
Dates Place

____
Dates Place

____
Dates Place

MMP - 5/76
UNC-CH

ACADEMIC CENTER
STUDENT'S EVALUATION
CLINICAL EDUCATION EXPERIENCE

PART I. EVALUATION OF INDIVIDUAL ASSIGNMENT

Dates _______________ Place _______________

In order to increase the efficiency in providing the information concerning the options available to you in selecting centers and scheduling the rotation for your clinical education experiences, your response to the following questions is most important. This checklist should be completed at the end of your experience with each service or facility.

Comments giving further information and suggestions for improvement will be a real help and greatly appreciated.

1. Was the information available to you concerning this facility helpful in your selection of this option?

	Definitely Helpful	Somewhat Helpful	Useless	Misleading	N.A.
A. Facility and Administration					
1. Location	_____	_____	_____	_____	_____
2. Identification of staff	_____	_____	_____	_____	_____
3. Personnel policies	_____	_____	_____	_____	_____
4. Written agreements	_____	_____	_____	_____	_____
5. Other					
B. Clinical Experience					
1. Type of patients served	_____	_____	_____	_____	_____
2. Specialty programs	_____	_____	_____	_____	_____
3. Objectives	_____	_____	_____	_____	_____
4. Learning experiences	_____	_____	_____	_____	_____
5. Length of affiliation time Center requires	_____	_____	_____	_____	_____
C. Information Pertaining to Students					
1. Support services available (Room___; Board___; Laundry___; Others___.)	_____	_____	_____	_____	_____
2. Cost to student	_____	_____	_____	_____	_____
3. Uniform requirements	_____	_____	_____	_____	_____
4. Evaluation of facility and recommendations from students	_____	_____	_____	_____	_____

2. Was the videotape of this individual facility helpful?

   a. In selection Yes___; No___.
   b. As orientation to Center Yes___; No___.

3. Did you have an opportunity to visit this facility or meet any of the personnel before you selected your options?

   a. Visit Facility Yes___; No___. Helpful? Yes___; No___.
   b. Personnel visited Academic Center Yes___; No___. Helpful? Yes___; No___.
   c. Had met personnel elsewhere previous to selection Yes___; No___. Helpful? Yes___; No___.

EVALUATION OF CENTER

After each student's clinical experience with each center is completed, the academic coordinator of clinical education and the centers coordinator of clinical education evaluate the affiliation and consider suggestions for improvement. Your comments are most important in this process - the positive as well as the negative factors.

4. After the schedule of affiliation was completed, did you receive information from this center? Yes___; No___.

   a. Board and Room Yes___; Adequate___; Inadequate___.
   b. Cars and Parking Yes___; Adequate___; Inadequate___.
   c. Emergency medical care Yes___; Adequate___; Inadequate___.

   d. Information in obtaining assistance Yes___; Adequate___; Inadequate___.
   e. Person to contact if need assistance Yes___; Adequate___; Inadequate___.
   f. Library facilities Yes___; Adequate___; Inadequate___.

   g. List of staff Yes___; Adequate___; Inadequate___.
   h. Location and time or first appointment Yes___; Adequate___; Inadequate___.
   i. Optional learning experiences Yes___; Adequate___; Inadequate___.

   j. Personnel policies Yes___; Adequate___; Inadequate___.
   k. Rules and regulations Yes___; Adequate___; Inadequate___.
   l. Schedule of working hours Yes___; Adequate___; Inadequate___.

   m. Special meetings or programs Yes___; Adequate___; Inadequate___.
   n. Travel information Yes___; Adequate___; Inadequate___.
   o. Uniform regulations Yes___; Adequate___; Inadequate___.

   p. Other Yes___; Adequate___; Inadequate___.

5. Was the orientation you received after your arrival at the center adequate___; somewhat lacking___; totally inadequate___.

If not adequate, give suggestions for improvement.

6. After the orientation, did you, as well as your Clinical Instructors, have a clear understanding as to what was expected of you? Yes___; No___.

Comment

7. Were the objectives for this center, as available to you preceding this affiliation, a true picture of the center and your actual experiences? Yes___; No___.

8. Were your objectives for clinical education considered in planning your learning experiences? Yes___; No___.

9. Did you feel that the learning experiences at this center were:
   a. Routine for every student who affiliated with this service, or
   b. Modified for each student after considering the student's own previous experience and objectives a___; b___.

10. Was the table of organization for this service and for the center made available to you? Yes___; No___.

11. Did you have a clear understanding as to whom you were directly responsible? Yes___; No___.

12. While you were affiliating with this clinical service, did you have an opportunity to meet:

    a. Students affiliating from other physical therapy programs? Yes___; No___.
    b. Students who were affiliating with other service departments? Yes___; No___.

If yes, please identify

13. Were written procedures available to you?

a. Center's objectives Yes___; No___.
b. Service's objectives Yes___; No___.
c. Administrative procedures Yes___; No___.

d. Patient care procedures or standards of practice Yes___; No___.
e. Procedures manual for clinical education Yes___; No___.
f. Accident report Yes___; No___.

g. Personnel Policies Yes___; No___.
h. Patient care plans Yes___; No___.
i. Monthly and annual reports Yes___; No___.

j. Other

14. Did you have an opportunity to be with members of other services? (For: Consultation, Discussion; Conferences; Rounds; Lectures)

a. Dietetics Yes___; No___.
b. Medical Technology Yes___; No___.
c. Nursing Service Yes___; No___.

d. Occupational Therapy Yes___; No___.
e. Orthotics and Prosthetics Yes___; No___.
f. Patient Education Yes___; No___.

g. Physician, Yes___; No___.
(in what manner or under what circumstance?)

h. Play Therapy Yes___; No___.
i. Radiology Yes___; No___.
j. Social Services Yes___; No___.

k. Speech Therapy Yes___; No___.
l. Vocational Counseling Yes___; No___.
m. Other

15. Did you participate in records or reports? Explain if necessary.

a. Initial notes including evaluation notes Yes___; No___.
b. Progress notes Yes___; No___.
c. Development of patient care plan Yes___; No___.

d. Discharge notes Yes___; No___.
e. Referral to other services Yes___; No___.
f. Referral to other centers Yes___; No___.

g. Home care programs Yes___; No___.
h. Problem oriented records Yes___; No___.
i. Computerized records Yes___; No___.

j. Internal audit of records Yes___; No___.
k. External peer review Yes___; No___.
l. Attendance or ledger records Yes___; No___.

m. Other

Comments:

16. Were you provided with space adequate to accommodate your needs?

a. Lockers Yes___; No___.
b. Secure personal belongings Yes___; No___.
c. Patient treatment area Yes___; No___.

d. Charting and record keeping Yes___; No___.
e. Quiet study area Yes___; No___.
f. Library facilities Yes___; No___.

g. Private area for counseling with clinical instructors Yes___; No___.
h. Small group conferences Yes___; No___.
i. Lounge areas Yes___; No___.

j. Other

17. Did you participate in inservice education programs available to the physical therapy staff? Yes___; No___.

18. Were you given adequate orientation to actual individual patients and responsibilities immediate prior to having the responsibility delegated to you? Yes___; No___.

19. Based on your experience and skill, did you feel the degree of supervision was:

too close___; Commensurate with need___; Inadequate___.

Comment

20. After the clinical instructor became familiar with your level of proficiency, were you given adequate opportunity to "try your wings"? Yes___; No___.

Comment

21. Did you have adequate opportunity for communication with the clinical instructor who was responsible for your learning? Yes___; No___.

22. Was the clinical instructor adequately familiar with your performance to discuss possible options with you? Yes___; No___.

Comment

23. Were on-going changes made in your learning experiences based on the level of competency you demonstrated? Yes___; No___.

Comment

24. Check as appropriate in describing the opportunity for discussion with your clinical instructor:

Daily_____; Weekly_____; Whenever necessary_____; Whenever requested_____;

Scheduled in advance_____; Impromptu_____; Seldom_____; Adequate_____;

Helpful_____.

Comment

25. Was your clinical performance evaluated:

Daily or whenever appropriate_____; Midway_____; Final_____.

Comment

26. Was the final evaluation form as returned to the Academic Coordinator of Clinical Education:

a. Discussed with you previous to completion so that you had an opportunity for discussion before it was finalized_____.

b. Discussed before completion with no opportunity to see the final form_____.

c. Discussed after completion_____.

27. Were you oriented to the policies of ethical standards as practiced by the staff of this clinical center? Yes___; No___.

28. Did this clinical center comply with the principles of equal opportunity and affirmative action as required by Federal legislation?

Yes___; No___; Do not know___.

If no, please cite examples of violation.

29. What did you feel were the strengths of your academic preparation for this clinical experience?

Comment

30. What did you feel were the weaknesses of your academic preparation for this clinical experience?

Comment

31. During this clinical education experience, if you were exposed to new subject matter areas not included in your previous academic curriculum, please describe?

32. Should the information you described in number 31 be incorporated in the present curriculum? Yes___; No___.

33. Is the information you described in number 31 important for every student to be exposed to during his clinical education experience? Yes___; No___.

34. Please give us your Summary comments and Recommendation for this Facility.

ACADEMIC CENTER
STUDENT'S EVALUATION
CLINICAL EDUCATION EXPERIENCE

PART II. OVERVIEW OF TOTAL EXPERIENCE

List of Courses:

Number	Course Title	Contact Hours

During your clinical education program, you have evaluated each individual experience or facility. Now, in retrospect, it will be helpful in revising and improving the program if you will think of the sequential experiences as a total course in terms of overall outcomes and preparation as a new staff physical therapist.

Your comments and suggestions will be greatly appreciated.

1. As you recall, were the courses in clinical education appropriate:

   a. for your level of understanding
   b. for your level of skill
   c. for course work as completed in the classroom

   Comment:

2. Did the learning experiences in your total clinical education program offer you a variety of exposure to:

Patient diagnoses	Yes____;	Some____;	No____.
Patient care regimes	Yes____;	Some____;	No____.
Types of centers	Yes____;	Some____;	No____.
Administrative experiences	Yes____;	Some____;	No____.
Consultative experiences	Yes____;	Some____;	No____.
Supervisory responsibilities	Yes____;	Some____;	No____.
Teaching opportunities	Yes____;	Some____;	No____.
Program planning	Yes____;	Some____;	No____.
Budget and fiscal management	Yes____;	Some____;	No____.
Personnel action	Yes____;	Some____;	No____.

3. Considering your total program of clinical education, were you provided with the opportunity of experiences in a variety of multiple organizational patterns utilized in providing health care, such as:

Acute Care	Yes___; No___.
Rehabilitation	Yes___; No___.
Chronic Care	Yes___; No___.
Out-of-Hospital Service	Yes___; No___.
Community Health Agency	Yes___; No___.
Health Maintenance Organization	Yes___; No___.
Medical Center Complex	Yes___; No___.
Community Hospital	Yes___; No___.
Rural Clinic	Yes___; No___.
Home Bound Care	Yes___; No___.
Public School	Yes___; No___.
Private Practice	Yes___; No___.
Out-Reach Clinic	Yes___; No___.
Mental Retardation	Yes___; No___.
Adult Mental Hospital	Yes___; No___.
Developmental Disabilities	Yes___; No___.

4. At sometime during your total program of clinical education, did you have an opportunity to pursue your special interests?

Yes___; Some___; Never___.

5. Did the Academic Coordinator of Clinical Education provide adequate information as to:

a. Options for clinical education overall?	Yes___; No___.
b. Options for selection of individual clinical facilities and special programs?	Yes___; No___.

6. Proceeding or during the process of selection of facilities and planning your full-time block of clinical education experiences did the Academic Coordinator of Clinical Education discuss with you:

a. Your objectives for clinical education?	Yes___; No___.
b. Your plans and goals for clinical practice immediately following graduation?	Yes___; No___.
c. Your long-term goals as a physical therapist (2 to 5 years)	Yes___; No___.
d. Your selection of options for design of the schedule?	Yes___; No___.

7. When it was impossible to comply with your selection of options, did the Academic Coordinator of Clinical Education give you adequate information as to the reason why they were not possible? Yes___; No___.

8. Before leaving the academic institution, were you given adequate information concerning your clinical education experiences?

   a. Location of centers Yes___; No___.
   b. When and where to report Yes___; No___.
   c. Personnel you would be meeting Yes___; No___.
   d. Pertinent information about the center Yes___; No___.
   e. Your responsibilities Yes___; No___.

9. Did the Academic Coordinator of Clinical Education give you adequate information regarding:

   a. Communication in case of emergency? (location; telephone numbers) Yes___; No___.
   b. Reports due Yes___; No___.
   c. Recommendations for special preparation for each center Yes___; No___.

Comments:

11. This question is based on a portion from the Standards for Basic Education in Physical Therapy. To quote: "The level of skill needed in performance of most specific tasks is determined to a considerable degree by the frequency with which they are performed by professional physical therapists in practice. Specific competencies to be developed by the student may, therefore, be classified using three broad categories."

Considering these three levels of usage, please rate your level of competency in performance for each category.

A. Is your level of skill (competency) in performance of specific tasks in common usage in physical therapy service throughout the country adequate to allow safe and effective performance?

High_____; Adequate_____; Low_____; Not at all_____.

B. Is your level of skill (competency) in performance of specific tasks utilized primarily in specialty areas of physical therapy services in which student should develop knowledge of concepts and principles adequate to allow advancement to useful levels of skill with experience?

High_____; Adequate_____; Low_____; Not at all_____.

C. At this third level of skill (competency) are those tasks rarely used in current physical therapy services but which students should know exist. Students should recognize the possible contribution of these activities to patient service; however, little skill in performance should be expected of the average recent graduate.

Considering your limited experience with staff physical therapists and other students, do you believe your knowledge concerning these tasks rarely used is:

Above Average_____; Average_____; Below Average_____.

Comments:

Your time, effort, and thoughtful response to this questionnaire will be given every consideration in the continual process of keeping the student's clinical education program relevant to his needs. Thank you for your contribution.

Appendix C

MAPS

NATIONAL MAPS: Educational Institution Viewpoint C-3

NATIONAL MAPS: Clinical Institution Viewpoint C-7

STATE MAPS: Clinical Education Centers C-10

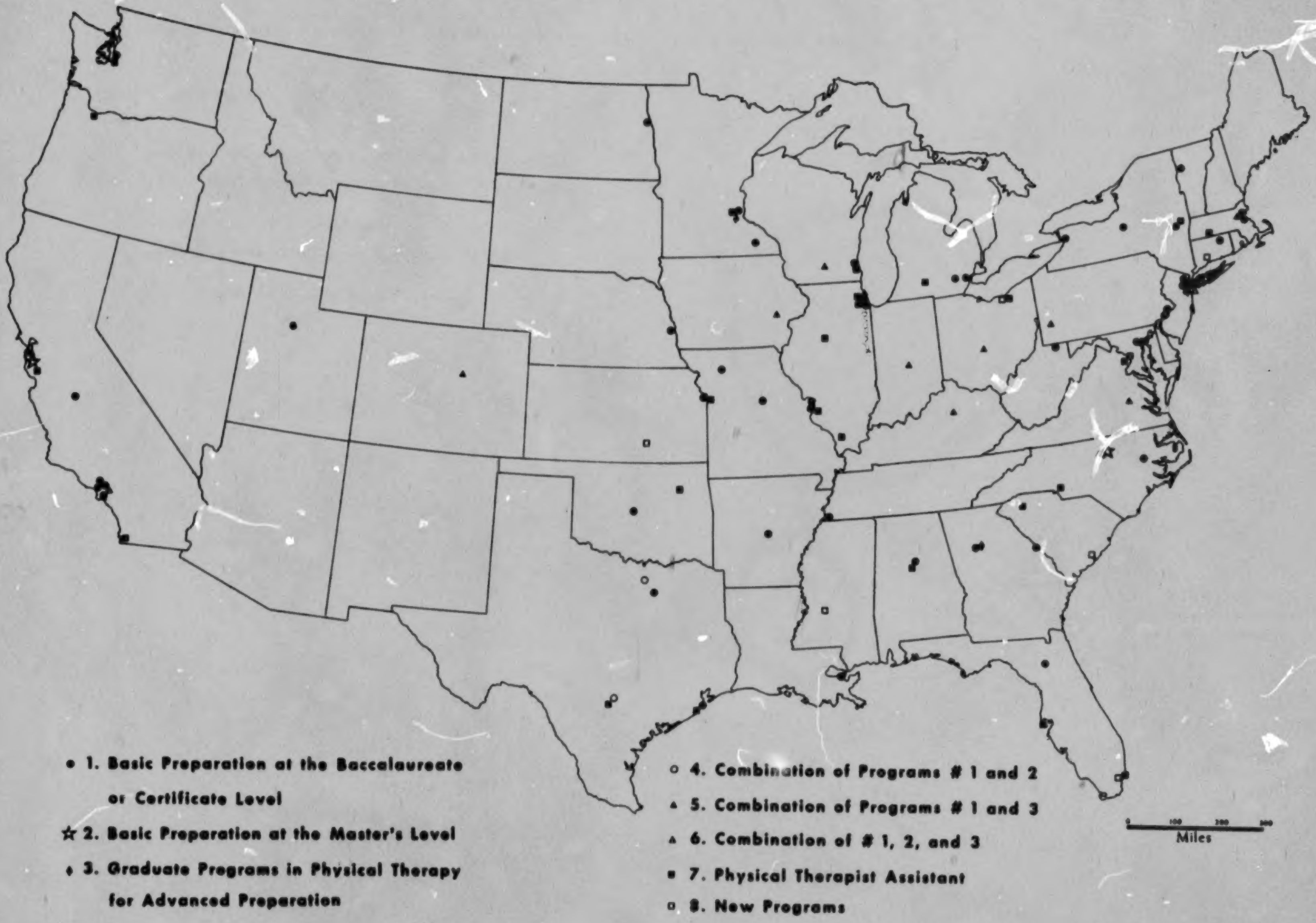
INTRODUCTORY NOTE

The utilization of available resources for the clinical education of students is discussed in Chapter 3. The following section of maps is included in the Project report to emphasize more vividly the location of educational programs and their geographic relationship with clinical centers. Maps 2 through 4 present a sample of educational programs and the clinical centers with which they have contractual relationships. It is readily apparent that the distances between the host institution and the receiving institution vary enormously. While some host institutions confine their affiliations to a state or geographic region others affiliate with clinical education centers across a widespread geographic area.

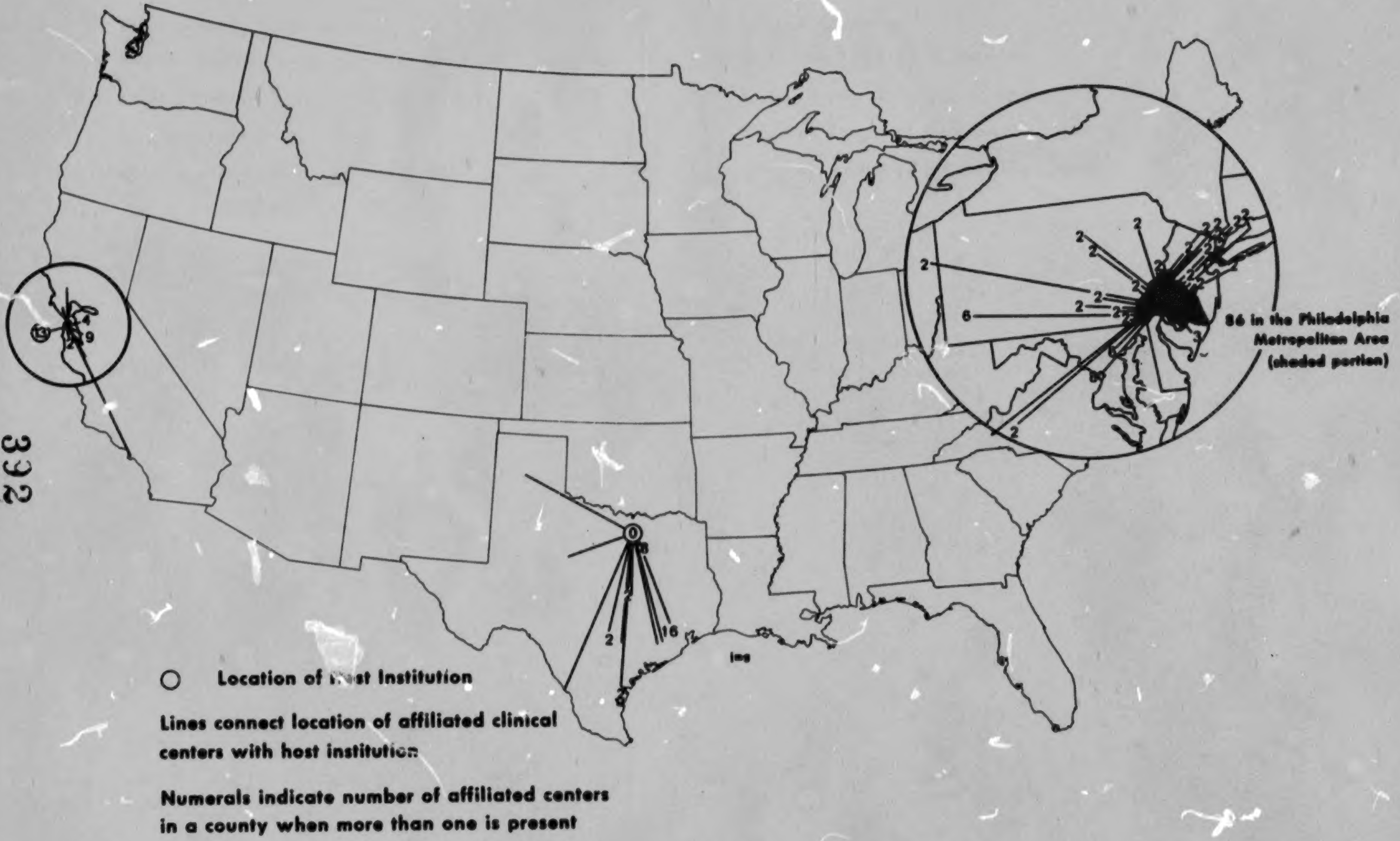
Out of the total number of clinical education centers affiliated with educational institutions a few are host institutions for six or more physical therapy educational programs (see pages 3-9). Several patterns of distribution are illustrated in Maps 5, 6a, and 6b.

Using all reported clinical education sites within a state and the number of educational programs with which they relate, several state maps were developed to show only the location of the affiliated resources. The five state maps (Maps 7-11) do not in all cases coincide with those states described on pages 3-18, or 3-19, but were chosen to represent all sections of the United States.

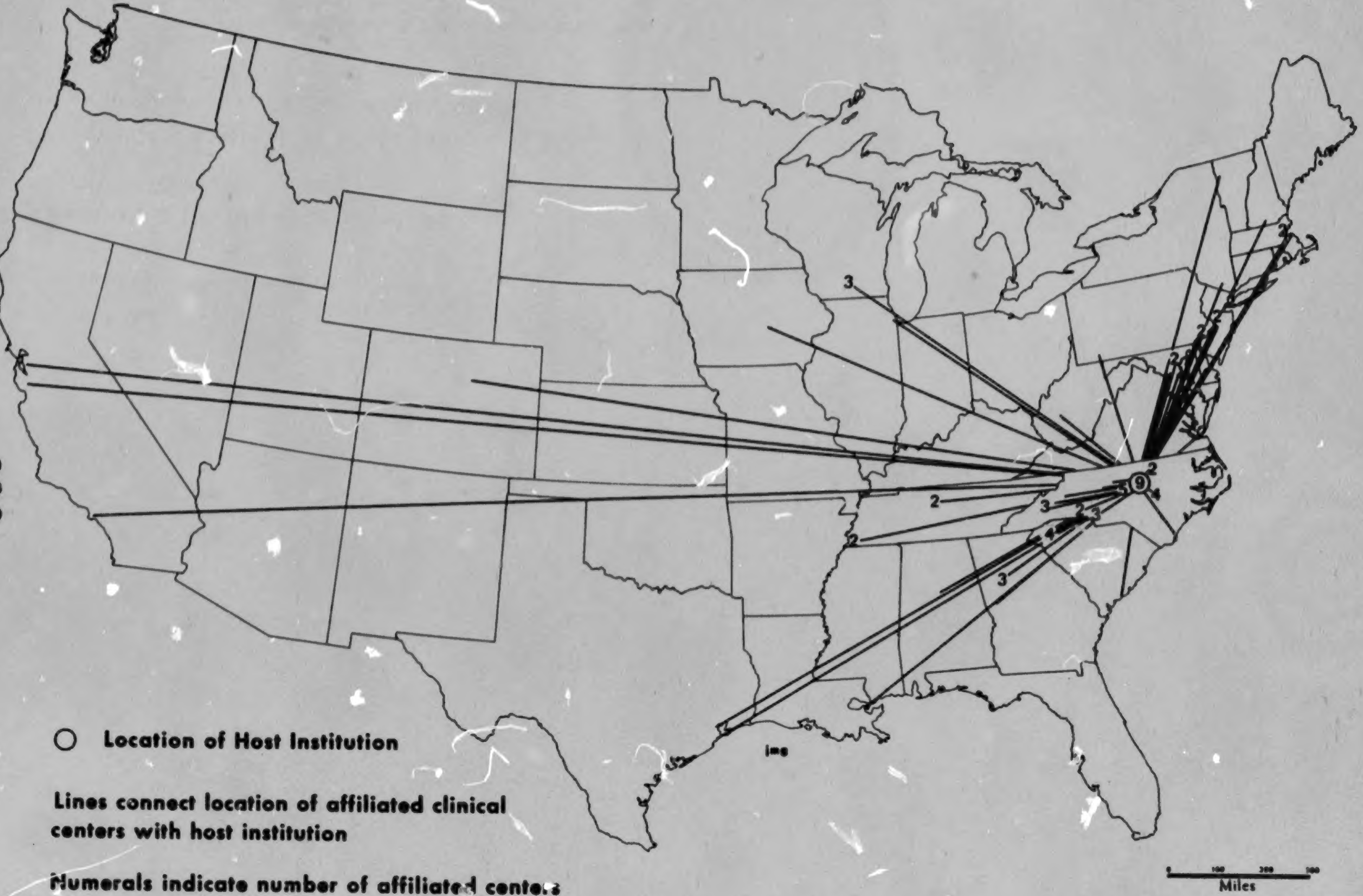
We are indebted to John Florin, Ph.D., Assistant Professor, and to J. Michael Gunville, graduate student, both of the Department of Geography of the University of North Carolina at Chapel Hill, for the preparation of the maps.


● 1. Basic Preparation at the Baccalaureate or Certificate Level
☆ 2. Basic Preparation at the Master's Level
♦ 3. Graduate Programs in Physical Therapy for Advanced Preparation
○ 4. Combination of Programs # 1 and 2
▲ 5. Combination of Programs # 1 and 3
▲ 6. Combination of # 1, 2, and 3
■ 7. Physical Therapist Assistant
□ 8. New Programs
0
100
200
300
Miles

MAP 1. Physical Therapy Educational Programs in the U.S. (1974)
Source: The American Physical Therapy Association, Fall 1974, Mimeographed


86 in the Philadelphia Metropolitan Area (shaded portion)
2
6
16
4
9
○ Location of Host Institution
Lines connect location of affiliated clinical centers with host institution
Numerals indicate number of affiliated centers in a county when more than one is present

MAP 2. Examples of Clustered Distribution of Clinical Centers Affiliating with PT Programs (1974)
Source: "Soft Data," Educational Administrators

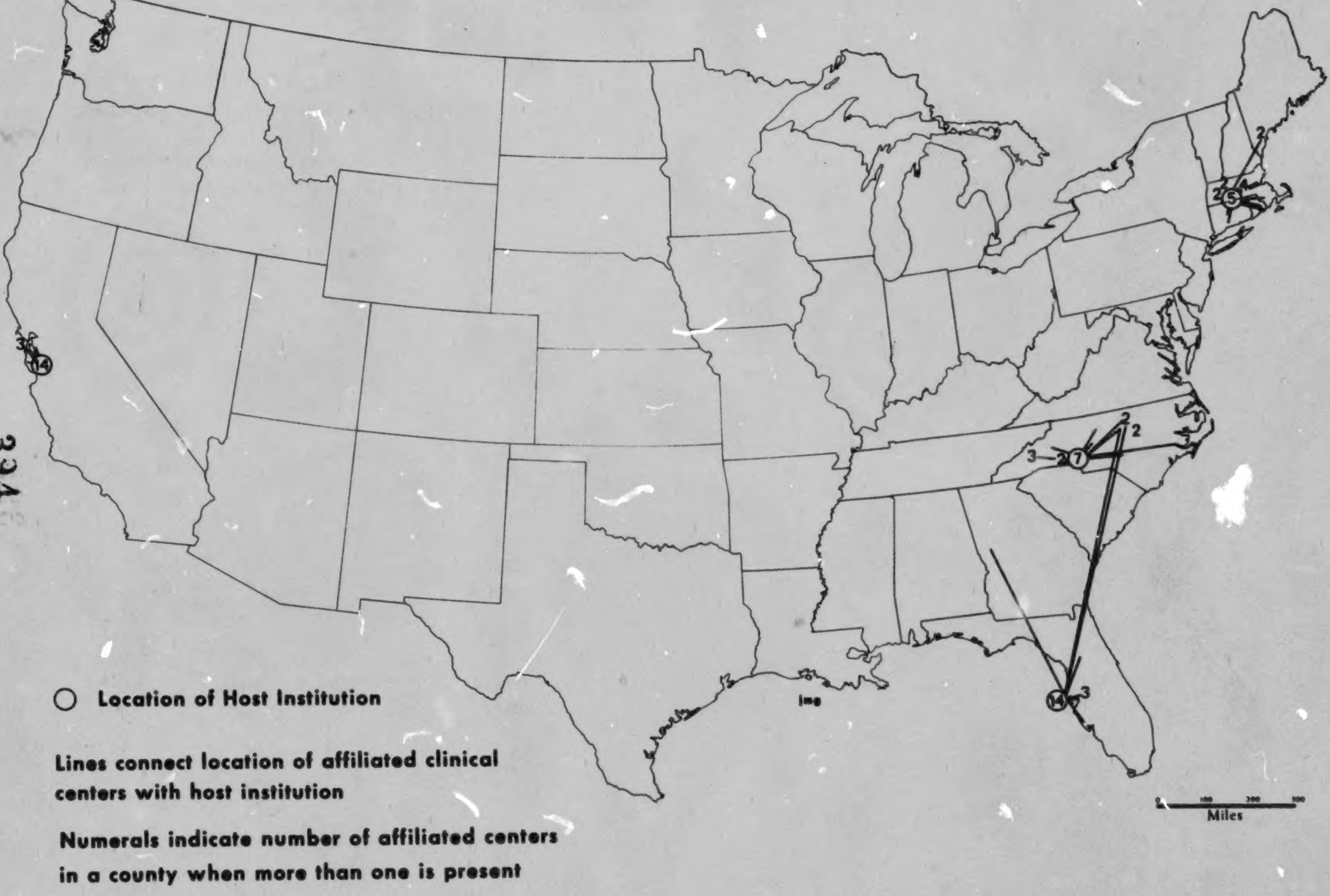


○ Location of Host Institution

Lines connect location of affiliated clinical centers with host institution

Numerals indicate number of affiliated centers in a county when more than one is present

MAP 3. Example of Widespread Distribution of Clinical Centers Affiliating with a PT Program (1974)
Source: "Soft Data," Educational Administrators

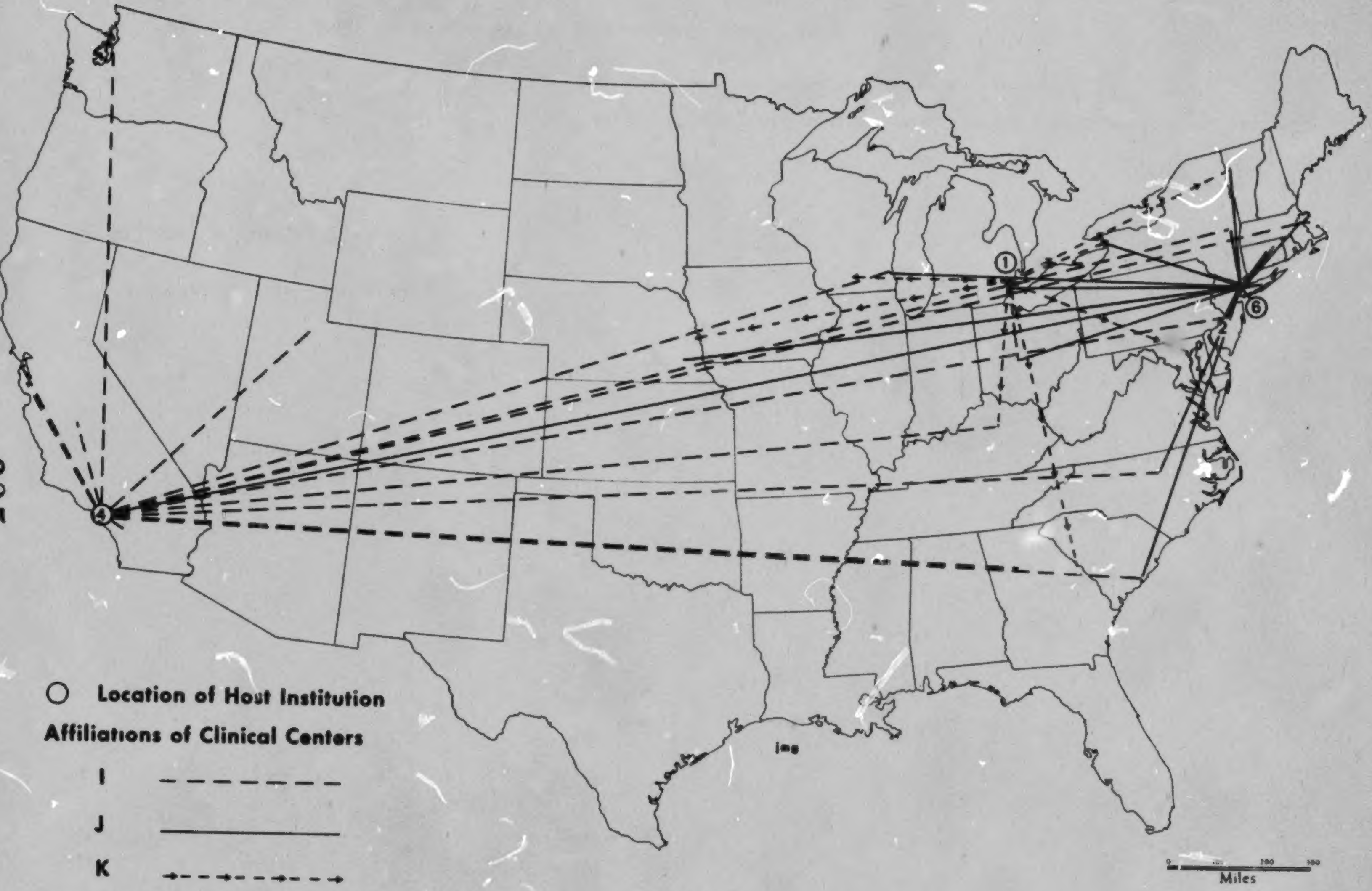


○ Location of Host Institution

Lines connect location of affiliated clinical centers with host institution

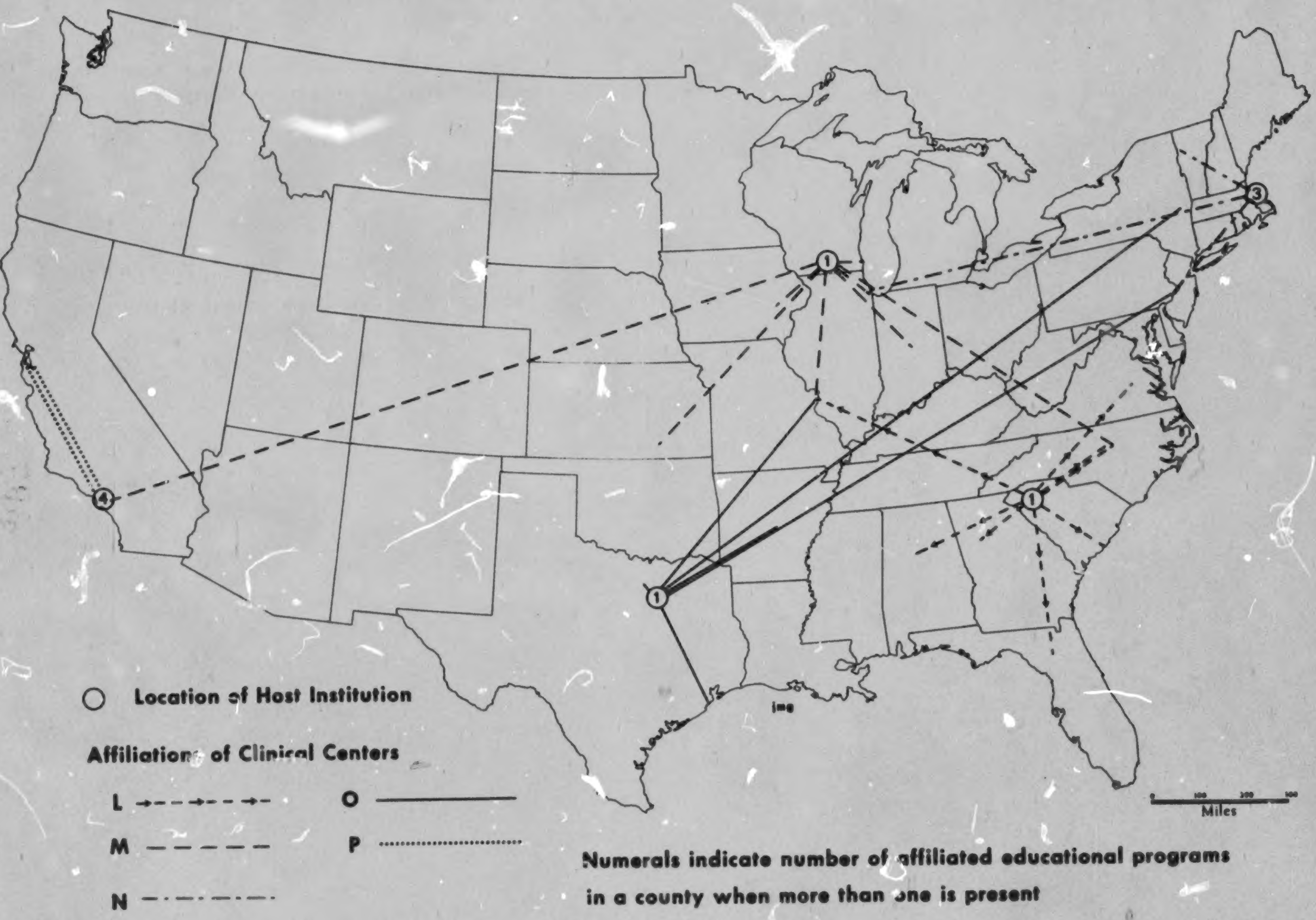
Numerals indicate number of affiliated centers in a county when more than one is present

MAP 4. Sample Distributions of Clinical Centers Affiliating with PT Programs (1974)
Source: "Soja Data," Educational Administrators


○ Location of Host Institution
Affiliations of Clinical Centers
I
J
K
1
4
6
0
100
200
300
Miles

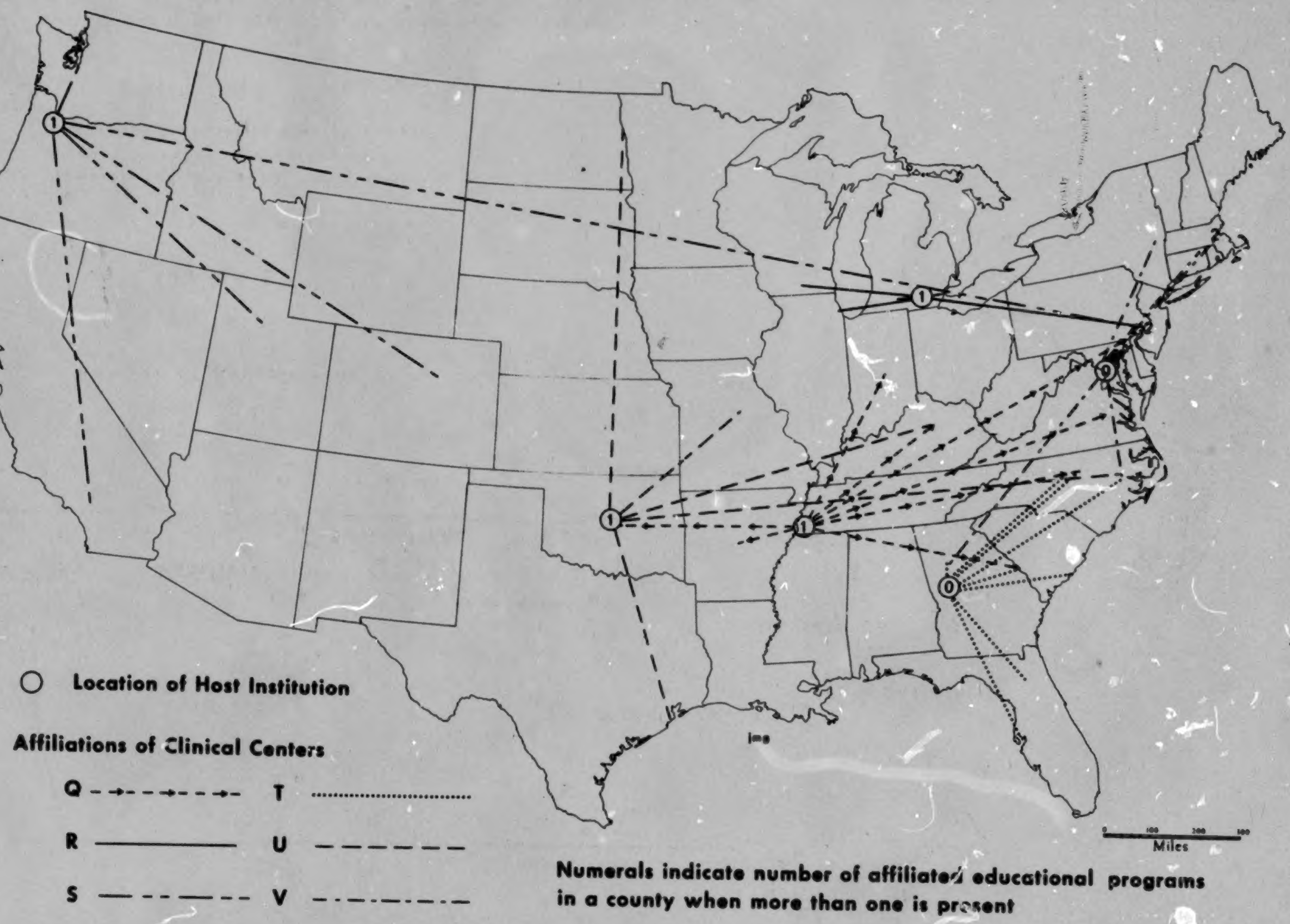
Numerals indicate number of affiliated educational programs in a county when more than one is present

MAP 5. Clinical Institutions Affiliating with 10 or more PT Educational Programs (1974)
Source: "Soft Data," Educational Administrators

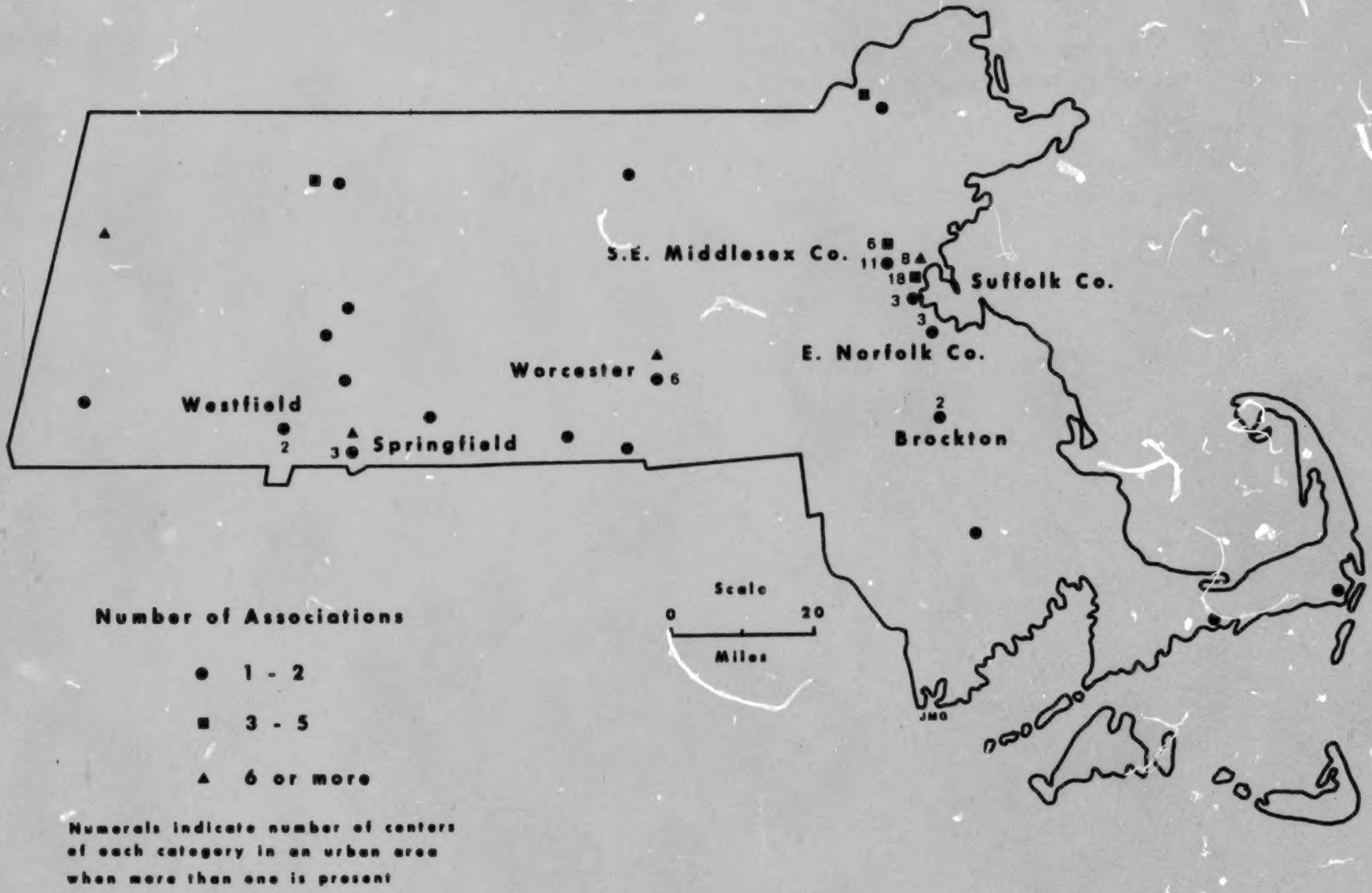

○ Location of Host Institution
Affiliations of Clinical Centers
L →- - -→- - -→-
M — — — — —
N —·—·—·—·
O ————————
P ·························
1
1
1
3
4
jmg
0 100 200 300
Miles

Numerals indicate number of affiliated educational programs in a county when more than one is present

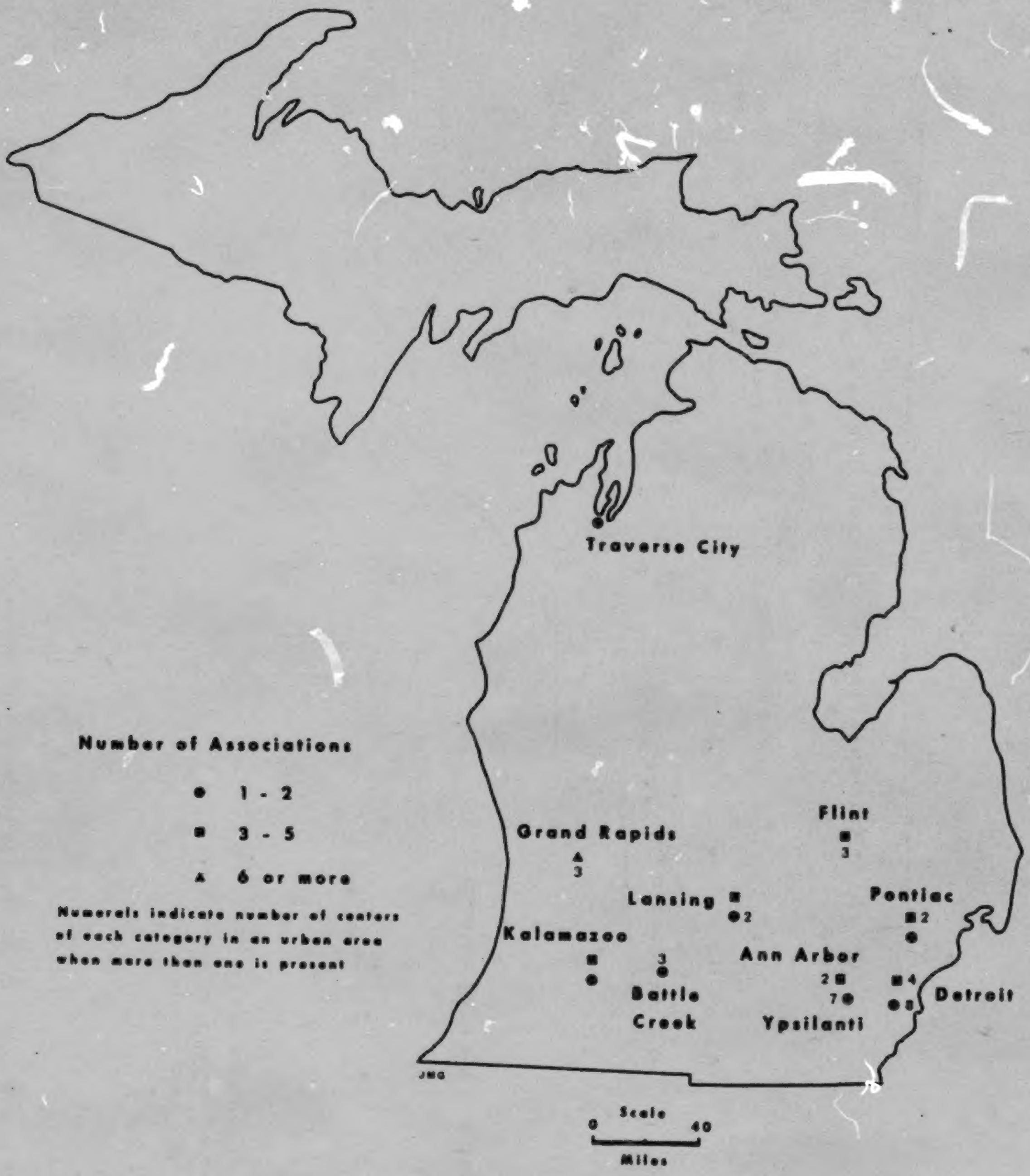
MAP 6a. Clinical Institutions Affiliating with 6 to 9 PT Educational Programs (1974)
Source: "Soft Data," Educational Administrators


○ Location of Host Institution
Affiliations of Clinical Centers
Q - -→- - -→- - -→-
T ....
R ————————
U — — — — — —
S ——— - - ——— - -
V — - — - — - — -
Numerals indicate number of affiliated educational programs in a county when more than one is present
1
1
1
11
9
0
0 100 200 300
Miles
jms

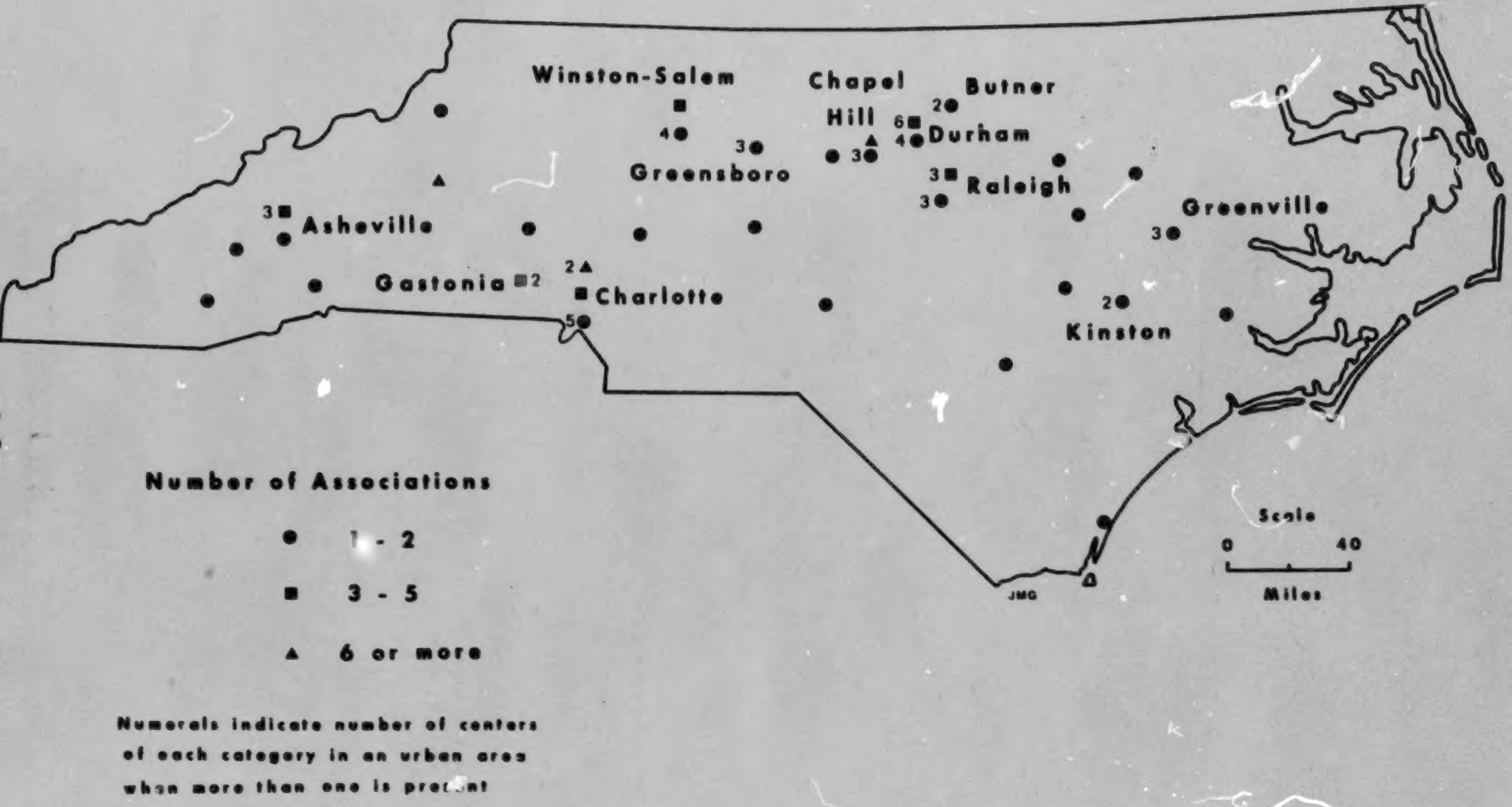
MAP 6b. Clinical Institutions Affiliating with 6 to 9 PT Educational Programs (1974)
Source: "Soft Data," Educational Administrators


S.E. Middlesex Co.
Suffolk Co.
E. Norfolk Co.
Worcester
Westfield
Springfield
Brockton
6
11
8
18
3
3
2
6
2
3
Scale
0
20
Miles
JMG
Number of Associations
● 1 - 2
■ 3 - 5
▲ 6 or more
Numerals indicate number of centers
of each category in an urban area
when more than one is present

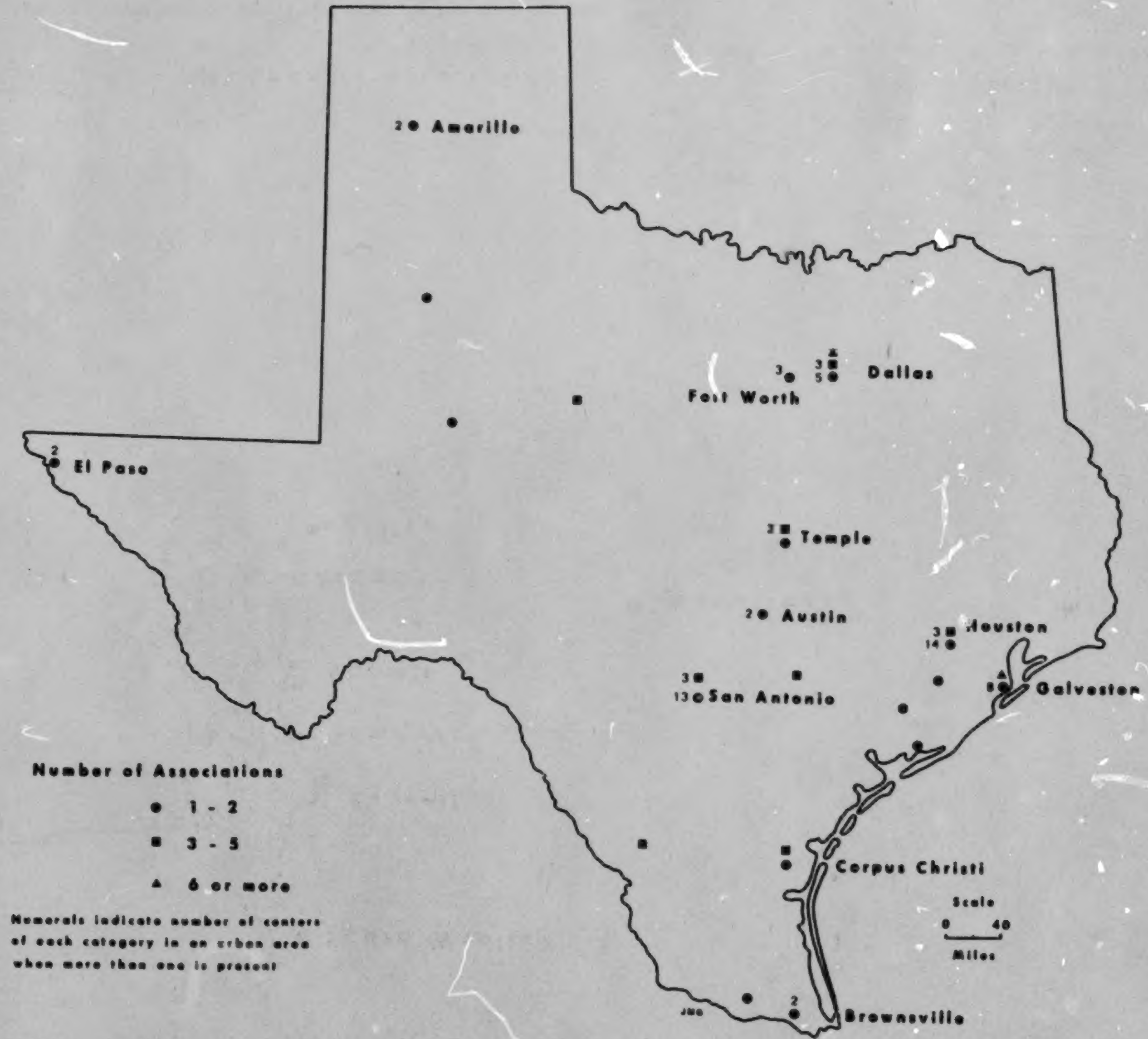
MAP 7. Distribution of Clinical Education Centers in Massachusetts (1974)
Source: "Soft Data," Educational Administrator


Number of Associations
● 1 - 2
■ 3 - 5
▲ 6 or more
Numerals indicate number of centers of each category in an urban area when more than one is present
Traverse City
Grand Rapids
3
Flint
3
Lansing
2
Pontiac
2
Kalamazoo
3
Ann Arbor
2
7
4
8
Battle Creek
Ypsilanti
Detroit
JMG
Scale
0
40
Miles

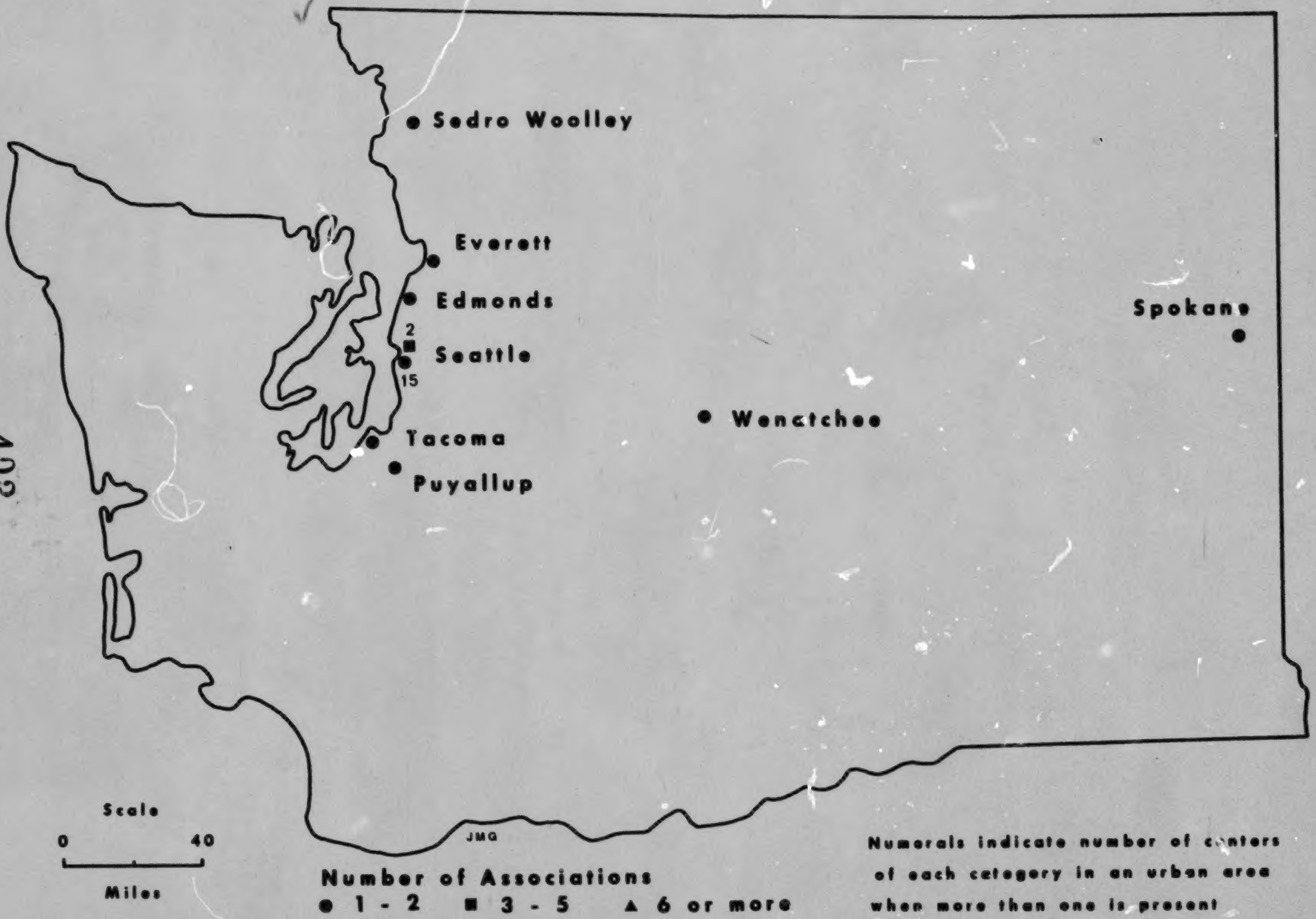
MAP 8. Distribution of Clinical Education Centers in Michigan (1974)
Source: "Soft Data," Educational Administrators


Winston-Salem
Chapel
Hill
Butner
Durham
Greensboro
Raleigh
Asheville
Greenville
Gastonia
Charlotte
Kinston
2
4
3
6
3
4
3
3
3
2
2
5
3
2
JMG
Scale
0
40
Miles
Number of Associations
● 1 - 2
■ 3 - 5
▲ 6 or more
Numerals indicate number of centers
of each category in an urban area
when more than one is present

MAP 9. Distribution of Clinical Education Centers in North Carolina (1974)
Source: "Soft Data," Educational Administrators


2 ● Amarillo
3 ● Fort Worth
3 ■ 5 ● Dallas
2 ● El Paso
3 ■ ● Temple
2 ● Austin
3 ■ 14 ● Houston
8 ● Galveston
3 ■ 13 ● San Antonio
Corpus Christi
2 ● Brownsville
Number of Associations
● 1 - 2
■ 3 - 5
▲ 6 or more
Numerals indicate number of centers of each category in an urban area when more than one is present
Scale
0 40
Miles
JHG

MAP 10. Distribution of Clinical Education Centers in Texas (1974)
Source: "Soft Data," Educational Administrators


Sedro Woolley
Everett
Edmonds
2
Seattle
15
Tacoma
Puyallup
Wenatchee
Spokane
Scale
0
40
Miles
JMG
Number of Associations
● 1 - 2 ■ 3 - 5 ▲ 6 or more
Numerals indicate number of centers of each category in an urban area when more than one is present

MAP 11. Distribution of Clinical Education Centers in Washington (1974)
Source: "Soft Data," Educational Administrators

Appendix D

SUPPLEMENTARY TABLES

SECTION A. "Soft Data" from Educational Administrators D-3
SECTION B. "Soft Data" from Clinical Centers D-8
SECTION C. Task Force Deliberations D-15
SECTION D. UNC-CH Study D-17
SECTION E. National Center for Health Statistics D-54

INTRODUCTORY NOTE

The tables in this appendix supplement the data presented in the text of this report. They are provided for the reader who wishes to pursue more definitively the information in the text. The tables in the appendix are grouped according to source. Section A contains materials from the "soft data" from the educational administrators, Section B from the "soft data" from the clinical centers, Section C from the task force members' deliberations, Section D from the UNC-CH study, and Section E from the National Center for Health Statistics.

The numerical data was presented in what the Project staff considered the most useful format. Percentages of persons responding to one item (the adjusted frequency), absolute frequencies and percentages, and rankings were reported as seemed most appropriate. Percentages were rounded off to either whole numbers or tenths depending on the needed sensitivity; therefore, the total response is not always 100 percent.

The Project on Clinical Education collected much more data than could be included in this volume. Only the data most pertinent to this report has been prepared for publication. The remainder is stored at the Division of Physical Therapy, School of Medicine, University of North Carolina at Chapel Hill.

APPENDIX D

Section A

"Soft Data" from Educational Administrators

Table A.1
QUALIFICATIONS OF THE ACADEMIC COORDINATOR OF CLINICAL EDUCATION AS DESCRIBED IN JOB DESCRIPTIONS

Qualification
Educational preparation
Graduate of an approved program of physical therapy
Eligible for licensure in the state
Has earned at least a masters degree
Demonstrates interest and involvement in continuing education, especially in educational topics
Experience
Three, four, or five years of clinical experience
Experience in clinical teaching (up to three years in one case)
Academic teaching experience
Interest and willingness to be trained in the use of educational technology, including television
Special skills
The ability to communicate
The ability to plan staff development programs

Source: "Soft data," 1974; based on information received from 25 educational programs

Table A.2
FREQUENCY OF OCCURRENCE OF VARIOUS PATTERNS OF CLINICAL EDUCATION

Pattern	Frequency of occurrence*	
	Physical therapist programs (N=43)	Physical therapist assistant programs (N=16)
Concurrent pattern with final full-time block	27	7
Concurrent pattern with no full-time block	0	5
No concurrent pattern; final full-time block only	4	2
Concurrent pattern with full-time block in middle	1	1
Concurrent pattern with multiple full-time blocks	11	1

Source: "Soft data," 1974; based on data received from 59 educational programs
*Frequency indicates number of programs responding

Table A.3
LENGTH OF FINAL FULL-TIME BLOCK ASSIGNMENTS FOR PROGRAMS ALSO HAVING CONCURRENT ASSIGNMENTS

Type of educational program and length of block (in weeks)	Average length of block (in weeks)	Frequency of occurrence
Physical therapist (N=27)		
11-12		12
12-16	14.3	9
17-20		6
Physical therapist assistant (N=7)		
3		1
6		3
7-16	7.9	3

Source: "Soft data," 1974 ; based on data received from 34 educational programs

Table A.4
RESPONSIBILITIES OF THE ACADEMIC COORDINATOR OF CLINICAL EDUCATION

A. Organizes, directs, supervises, and coordinates (administers) the clinical education program of the curriculum. (May be assisted by a committee of faculty, clinical faculty, and students.)

- Establishes the procedures, guidelines, and manuals for the clinical education component of the curriculum.
- Schedules the students for clinical education assignments and coordinates schedules between several clinical centers utilized.
- Serves as liaison between the university and the clinical faculty in the following areas:
  - -assists the clinical faculty in planning student experiences;
  - -relates curriculum objectives to the clinical center in order to have clinical education relevant and coordinated;
  - -maintains communication with the center in the interest of the students;
  - -visits the facilities in the interest of students.
- Coordinates and participates in evaluation program for the clinical education experience:
  - -evaluates student performance by developing evaluation devices and feedback mechanisms;
  - -grades students;
  - -evaluates the clinical education experience, including the clinical faculty and the facility (this would include designing the devices and the feedback mechanisms).
- Works with clinical coordinators of other health disciplines.

B. Develops the clinical center and the clinical faculty.

- Develops new clinical centers by a variety of means.
- Maintains optimal functioning of clinical education centers in regard to clinical education through:
  - -rapport with administrators, physicians, and physical therapy staff, especailly the center's coordinator of clinical education;
  - -visits the centers where students affiliate in the interest of development and maintenance of relationships;
  - -feedback from the evaluation of the clinical faculty.
- Works to secure college and university recognition and appointments of clinical faculty.
- Assists the clinical faculty in perfecting their teaching, education and communication skills.

---

table continues

Source: "Soft data," 1974; based on job descriptions of ACCEs submitted by 25 educational programs

Table A.4 continued

RESPONSIBILITIES OF THE ACADEMIC COORDINATOR
OF CLINICAL EDUCATION

C. Develops students through counseling and guidance.

- Counsels with students on a personal basis.
- Assists students in benefiting from the evaluation of clinical performance.
- Assists students with job placement.
- Conducts seminars or special sessions with students on topics involved in their clinical education experiences.

D. Functions as a teacher or as a faculty member.

- Teaches in the basic curriculum.
- Develops teaching materials, including audiovisual and other educational media.
- Plans and teaches in continuing education programs of benefit to faculty, staff, students, clinical faculty, and the physical therapy community. May serve as chairman of the department's committee on continuing education.
- Plans and teaches in the inservice education program of the institution.

E. Participates as a member of the physical therapy and institutional faculty in appropriate ways.

- Performs administrative roles as requested or required, including:
  - -assists with the writing of grants;
  - -assists with the preparation of the department budget.
- Attends and participates in departmental meetings.
- Serves as liaison between the physical therapy program and the professional community.
- Serves on departmental committees.

Source: "Soft data," 1974; based on job descriptions of ACCEs submitted by 25 educational programs

Table A.5
PROGRAMS FOR CLINICAL FACULTY DEVELOPMENT ORIGINATING FROM ACADEMIC INSTITUTIONS

Description of clinical faculty development programs	Educational institutions presenting programs
Frequency of meetings	
Annually	17
Irregularly, 3-8 per year	5
Monthly	3
Held, no time stated	1
Length of meetings	
1 to 3 hours	5
8-hour course	1
1 day	7
2 days	4
3 days	4
Length of meeting not stated	4
Topics	
Clinical education (general topics and discussion)	10
Curriculum (changes, review of forms which affect or influence clinical education, core concept, trends)	10
The student:	
Selection	2
Orientation to clinical education	1
Evaluation	5
Recruitment of minorities	1
Handling student failure	1
Principles of:	
Teaching	2
Learning	2
Supervision	2
Administration	1
Communication (interactions and interpersonal relations)	4
Clinical faculty role and development	3
Medical legal problems (including written agreements)	2
Health care system and role of physical therapist	2
Teaching aids (audio-visual and self-instructional packages)	3

Source: "Soft data," 1974; based on materials submitted by 25 educational programs

APPENDIX D

Section B

"Soft Data" from Clinical Centers

Table B.1
NUMBER OF MONTHS PER YEAR CENTERS ARE INVOLVED IN CLINICAL EDUCATION

Months of involvement per year	Frequency of occurrence* (N=176)
1	0
2	1
3	9
4	10
5	8
6	9
7	9
8	16
9	32
10	15
11	16
12	45
Unknown	6

Source: "Soft data," 1974; based on materials received from 176 clinical centers

* Frequency indicated is number of clinical centers responding

Table B.2
COSTS AND BENEFITS OF CLINICAL EDUCATION REPORTED BY CLINICAL CENTERS

Cost or benefit	Incurred by		
	Clinical center	Student	Educational program
Costs			
Meals	x	x	
Room	x	x	
Supervisor's time (planning, lecturing, counseling, instructing, training)	x		
Stipend to the student	x		
Transportation	x	x	
Parking	x	x	
Employee benefits for the student:			
Medical insurance		x	
Liability insurance		x	
Physical exam	x		
Emergency medical care	x		
Workmen's compensation	x		
Laundry	x	x	
Continuing education (including inservice)	x		
Equipment and supplies:			
Equipment exchange			x
Equipment cleaning, depreciation, maintenance	x		
Equipment purchase	x		
Orientation materials	x		
Supplies	x		
Purchase of books	x		
Instructional materials	x		
Instructional equipment	x	x	
Clinical supervisors meeting	x		
Site visit			x
Administrative costs:			
Clerical time	x		
Personnel office	x		
Facility use (including office space)	x		
Taxes and license	x		
Meetings	x		
Clinical education tuition		x	
Psychic costs	x	x	

Table continues

Source: "Soft data," 1974; based on reports from 44 clinical centers

Table B.2 (Continued)
COSTS AND BENEFITS OF CLINICAL EDUCATION REPORTED BY CLINICAL CENTERS

Cost or benefit	Incurred by		
	Clinical center	Student	Educational program
Benefits			
Increased income	x		
Increased consumer benefits or service	x	x	
Recruitment and personnel hiring	x		
Prestige	x		
Satisfaction	x		
Stimulation	x		
Self-evaluation	x		
Skill development and competence	x	x	
Departmental evaluation	x		
Goal achievement		x	

Source: "Soft data," 1974; based on reports from 44 clinical centers

Table B.3
CLINICAL EDUCATION RESPONSIBILITIES OF THE CENTER COORDINATOR OF CLINICAL EDUCATION

Rank**	Frequency*	Clinical education responsibilities of CCCE
1	122	Plans, conducts, coordinates or directs student education program
2	93	Plans, conducts, coordinates or directs education of non-physical therapy students
3	71	Supervises clinical experiences
4	70	Evaluates students
5	64	Instructs students
6	55	Provides liaison with educational programs
7	41	Orients students to center
8	38	Attends short courses and/or faculty meetings
9	28	Counsels students
10	25	Develops educational materials
11	24	Evaluates program
12	21	Establishes objectives of clinical education
13	16	Makes various arrangements for students
14	12	Knows the curriculum of the educational program
15	9	Drafts or negotiates contractual agreements
16	7	Ascertains students' needs
17	5	Knows policies of educational program
18	2	Knows students' schedules

Source: "Soft data," 1974; based on 136 job descriptions received from clinical centers

*Frequency indicated is number of times the item appeared in the 136 job descriptions

**Rank is determined by numerical frequency

Table B.4
QUALIFICATIONS REQUIRED OF THE CENTER COORDINATOR OF CLINICAL EDUCATION

Rank	Frequency	Qualifications (required)
1	92	Graduation from an approved school
1	92	Experience*
2	76	Licensed to practice
3	42 (28) (14)	Supervisory experience and knowledge (Experience) (Knowledge)
4	21 (3) (18)	Administrative experience and knowledge (Experience) (Knowledge)
4	21	American Physical Therapy Association membership
5	19 (10) (9)	Clinical teaching experience and knowledge (Experience) (Knowledge)
6	14	Interest in clinical teaching
7	10	Masters degree
7	10	Completion of an internship program
8	6	Previous employment at present institution
9	4	Post baccalaureate education or intent to pursue
10	2	Major in education

* Required lengths of experience

		Length of experience
1	24	1½ - 2 years
2	22	3 years
3	17	Unspecified number of years
4	9	1 year
4	9	4 years
5	8	5 years
6	2	5 years of teaching experience
7	1	More than 5 years
7	1	None
	N=93	

Source: "Soft data," 1974; based on 136 job descriptions received from clinical centers

Table B.5
QUALIFICATIONS RECOMMENDED FOR THE CENTER COORDINATOR OF CLINICAL EDUCATION

Rank	Frequency of occurrence	Qualification (recommended)
1	20	Experience*
2	8	American Physical Therapy Association membership
3	4	Supervisory experience
4	3	Masters degree
4	3	Clinical teaching experience
5	2	Post baccalaureate education or intent to pursue
6	1	Administrative knowledge
6	1	Previous employment at present institution

*Recommended lengths of experience

		Length of experience
1	4	2 years
1	4	3 years
1	4	5 years
2	3	More than 5 years
3	2	3 years or more
4	1	More than 3 years
4	1	More than 4 years
4	1	5 years or more

Source: "Soft data," 1974; based on 136 job descriptions submitted by clinical centers

Table B.6
RESPONSIBILITIES OF THE CHIEF PHYSICAL THERAPIST IN THE EDUCATION OF PHYSICAL THERAPY STUDENTS

Rank	Frequency of inclusion	Responsibilities
1	152	Planning, directing, and evaluating student education program
2	55	Supervising students
3	51	Teaching students
4	41	Evaluating students
5	29	Liaison with schools
6	21	Functioning as the clinical coordinator
7	17	Attending short courses and/or faculty meetings
8	10	Counseling students
9	8	Orienting students
10	4	Participating in the student education program
-	119	No mention of educational responsibilities of physical therapy students

Source: "Soft data," 1974; based on 199 job descriptions received from clinical centers.

Section C

Task Force Deliberations

Table C.1
BENEFITS OF CLINICAL EDUCATION

Benefits
Benefits to the student
Fringe benefits (travel, stipends, health care, laundry, meals)
Increased quality and quantity of education
Additional educational materials available
Job placement
Benefits to the educational program
Grants
Contracts
Faculty enrichment (didactic and clinical)
Maintainance of an up-to-date curriculum
Quality of the educational program
Curriculum enrichment through patient involvement
Equipment borrowed for teaching
Shared positions
Recruitment of faculty
Recruitment of students (including graduate students)
Benefits to the clinical education center
Income produced by students
Continuing education offerings of the educational program
Books, audio-visuals, equipment, self-instructional packages provided by the academic program
Travel and per diem expenses for meetings
Professional stimulus
Increase in staff
Recruitment of staff
Prestige to the center
Program development
Consultations for patients and management
Shared salaries
Faculty input into service programs
Tuition reimbursement

Source: Task force members of Project on Clinical Education (December 1974)

Table C.2
CLINICAL EDUCATION COSTS

Costs
Costs incurred by the student
Health examination
Travel (car, bus, air)
Per diem expenses (above maintaining regular room or apartment)
Tuition and fees
Uniforms
Laundry of uniforms
Insurance (liability and health)
Fees for continuing education courses or events "highly recommended" or required
Fees to the clinical center
Loss of scholarship support
Loss of work-for-pay opportunities
Costs incurred by the educational program
Physical therapists' time
Supplies
Cost of developing centers
Cost of developing clinical faculty
Travel (academic faculty, clinical faculty)
Meetings--total cost
Preparation of materials
Salaries
Equipment loans or purchases
Library holdings
Benefits to the clinical faculty
Tuition vouchers
Continuing education courses
Audiovisual software
Health examination of students
Costs incurred by the clinical education center
Salaries
Supplies
Loss of productive time
Fringe benefits to the students [illegible] health care, meals, laundry, uniforms, housing, parking, drugs, insurance
Continuing education of staff with or without students
Time spent with students in nonpatient-related areas
Time spent in educational planning, activities, meetings, and evaluation sessions
Space utilization
Travel
Audiovisual costs
Stipends

Source: Task force members of Project on Clinical Education (December 1974)

APPENDIX D

Section D

UNC-CH Study

Table D.1
FREQUENCY WITH WHICH ADVANCED STUDENTS HAD THEIR OWN OBJECTIVES

Response categories	% of new graduates responding (N=127) %
Always had own objectives	31
Usually had own objectives	41
Sometimes had own objectives	17
Seldom had own objectives	3
Never had own objectives	6
Don't know	3

Source: UNC-CH study, 1975

Table D.2
LEVELS OF STUDENTS CLINICAL CENTERS ARE WILLING TO ACCEPT

Student levels	Frequency of response (%)* (N=250)	
	Willing to accept %	Unwilling to accept %
Freshmen and sophomores	17	83
Juniors: part-time	53	47
Juniors: full-time	45	55
Seniors: part-time	65	35
Seniors: full-time	77	24
Final full-time block	70	30
Graduate students: basic preparation	37	63
Graduate students: advanced preparation	34	66
First-year physical therapist assistant	27	73
Second-year physical therapist assistant	41	60

Source: UNC-CH study, 1975
* Frequency indicated is % of respondents replying to each item

Table D.3
STUDENTS ASSIGNED TO SELECTED TYPES OF CLINICAL CENTERS DURING 1974

Month of 1974	Measure	Number of students assigned to clinical center					
		Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private Practice N=7
January	Mean	3	4	4	3	3	4
	Mode	2	2	2	1	2	1
	Median	2	2	2	2	3	2
	Range	0-34	0-34	0-34	0-21	0-6	1-11
February	Mean	4	4	4	4	3	4
	Mode	2	1	1	1	2	1
	Median	2	3	2	2	2	2
	Range	0-23	0-20	0-20	0-23	0-12	1-13
March	Mean	3	4	4	3	2	3
	Mode	2	1	1	2	1	1
	Median	2	2	2	2	2	2
	Range	0-23	0-21	0-21	0-23	0-6	1-10
April	Mean	3	3	4	4	3	3
	Mode	2	2	2	1	1	1
	Median	2	2	2	2	2	2
	Range	0-24	0-20	0-20	0-24	1-12	0-10
May	Mean	3	3	3	4	2	5
	Mode	1	2	2	1	1	1
	Median	2	2	2	2	2	1
	Range	0-24	0-17	0-17	0-24	1-8	0-16
June	Mean	3	3	4	3	3	4
	Mode	2	2	1	1	2	0
	Median	2	2	2	1	2	1
	Range	0-20	0-20	0-20	0-16	0-9	0-16
July	Mean	3	3	3	3	2	4
	Mode	2	2	0	2	2	1
	Median	2	2	2	2	2	2
	Range	0-20	0-20	0-20	0-14	0-8	0-14
August	Mean	2	3	3	2	2	3
	Mode	1	2	1	0	2	0
	Median	2	2	2	1	2	1
	Range	0-20	0-20	0-20	0-14	0-10	0-14

table continues

Source: UNC-CH study, 1975
*OPD= outpatient department

Table D.3 continued
STUDENTS ASSIGNED TO SELECTED TYPES OF CLINICAL CENTERS DURING 1974

Month of 1974	Measure	Number of students assigned to clinical center					
		Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private Practice N=7
September	Mean	3	3	5	2	3	4
	Mode	2	2	0	0	1	0
	Median	2	2	2	1	2	3
	Range	0-43	0-43	0-43	0-12	1-6	0-12
October	Mean	3	3	3	4	3	5
	Mode	0	0	2	0	2	1
	Median	2	2	2	2	2	4
	Range	0-36	0-36	0-36	0-24	0-12	1-14
November	Mean	4	4	3	5	3	5
	Mode	2	0	2	0	1	1
	Median	2	2	2	3	3	4
	Range	0-36	0-36	0-36	0-24	0-7	1-14
December	Mean	3	3	3	4	3	5
	Mode	0	0	0	0	2	1
	Median	2	2	1	2	2	4
	Range	0-36	0-36	0-36	0-24	0-6	1-11

Source: UNC-CH study, 1975
*OPD = outpatient department

Table D.4
STUDENT LOAD IN SELECTED CLINICAL CENTERS FOR 1974

Type of students	Measure	Student Load for 1974 (in student weeks*)					
		Teaching hospital N=138	Rehabilitation center N=77	Pedia-OPD** N=50	Extended care facility N=38	Public Health N=17	Private Practice N=7
Full-day students	Mean	65	86	58	58	48	38
	Mode	16	18	24	18	30	7
	Median	3[illegible]	52	30	30	28	13
	Range	1-781	6-560	0-551	5-362	0-282	7-152
Half-day students	Mean	19	32	11	24	10	17
	Mode	0	0	6	0	0	2
	Median	7	7	8	12	4	21
	Range	0-207	0-716	0-51	0-128	0-36	2-28
Total	Mean	80	109	63	71	72	54
	Mode	24	45	24	13	20	14
	Median	45	59	31	36	30	36
	Range	0-783	0-1276	2-551	6-362	1-282	14-152

Source: UNC-CH study, 1975

*Student weeks (full-time students) = $\frac{\text{\# of students x \# of days they were in center}}{5\text{(days/week)}}$

Student weeks (half-time students) = $\frac{\text{\# of students x \# of days they were in center}}{10\text{(half days/week)}}$

** OPD=outpatient department

Table D.5
CLINICAL CENTERS AFFILIATING WITH ONE OR MORE THAN ONE EDUCATIONAL PROGRAM

Type of clinical center	Frequency of response*	
	% affiliating with more than one educational program %	% affiliating with only one educational program %
Teaching hospital (N=138)	70	30
Rehabilitation center (N=77)	79	21
Pediatric outpatient department (N=50)	62	38
Extended-care facility (N=38)	53	47
Public health (N=17)	59	41
Private practice (N=7)	71	29

Source: UNC-CH study, 1975

* Frequency indicated is % of clinical centers responding to each item

Table D.6
TIME COVERAGE OF PHYSICAL THERAPY SERVICE AT SELECTED TYPES OF CLINICAL CENTERS

Coverage	Percentage of clinical centers*					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD** N=50 %	Extended-care Facility N=38 %	Public health N=17 %	Private practice N=7 %
5-day week or less	33	51	66	45	82	29
6-day week or less (but more than 5 days)	47	35	18	42	12	29
7-day week or less (but more than 6 days)	20	14	16	13	6	43
8-hour day	71	70	67	82	81	43
Extended day	21	20	16	13	13	29
Other	8	10	16	5	6	29

Source: UNC-CH study, 1975
* % indicated is % of clinical centers responding to each item
** OPD = outpatient department

Table D.7
LOCATION OF SELECTED TYPES OF CLINICAL CENTERS

Location of center	Percentage of clinical centers**					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Rural	5	4	4	14	0	0
Surburban	20	28	21	19	19	0
Urban	73	62	67	64	56	100
Other	3	5	8	3	25	0

Source: UNC-CH study, 1975
* OPD=outpatient department
** % indicated is % of clinical centers responding to each item

Table D.8
ADMINISTRATION AND FUNDING OF SELECTED TYPES OF CLINICAL CENTERS

Administration and funding of physical therapy service	Percentage of clinical centers*					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD** N=50 %	Extended-care facility N=38 %	Public Health N=17 %	Private Practice N=7 %
Administration						
Administratively and financially part of clinical center	98	96	100	92	100	80
Contracted to the clinical center	2	4	0	8	0	20
Funding source						
Voluntary, non-profit	63	66	69	49	41	40
Voluntary, proprietary	3	6	4	15	0	60
Governmental, federal	18	9	9	18	18	0
Governmental, state	6	7	9	0	12	0
Governmental, city	2	4	2	9	12	0
Governmental, county	8	9	7	9	18	0

Source: UNC-CH study, 1975
* % indicated is % of clinical centers responding to each item
** OPD = outpatient department

Table D.9
PHYSICAL THERAPY PERSONNEL EMPLOYED IN SELECTED TYPES OF CLINICAL CENTERS

Personnel	Measure	Number of personnel					
		Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
Physical therapists							
	Mean	8	9	7	6	6	5
	Mode	7	6	2	2	2	1
	Median	6	7	5	5	4	5
Physical therapist assistants							
	Mean	1	1	1	1	0	1
	Mode	0	0	0	0	0	0
	Median	0	0	0	0	0	1
Trained aides							
	Mean	4	5	5	4	1	3
	Mode	1	2	1	1	0	4
	Median	3	3	2	2	0	4

Source: UNC-CH study, 1975
* OPD = outpatient department

Table D.10
PHYSICAL THERAPY PERSONNEL WORKING WITH STUDENTS IN SELECTED TYPES OF CLINICAL CENTERS

Personnel	Measure	Number of personnel					
		Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
Physical therapists							
	Mean	6	7	6	6	5	4
	Mode	3	2	2	2	2	1
	Median	5	6	5	4	4	3
Physical therapist assistants							
	Mean	1	1	1	0	0	1
	Mode	0	0	0	0	0	0
	Median	0	0	0	0	0	0
Trained aides							
	Mean	3	4	3	2	1	1
	Mode	0	0	0	0	0	0
	Median	1	2	1	1	0	0

Source: UNC-CH study, 1975
* OPD = outpatient department

Table D.11
PATIENT LOAD FOR STAFF IN SELECTED TYPES OF CLINICAL CENTERS

Staff member	Measure	Period	Patient load per day					
			Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
Chief physical therapist	Mean	Oct. 74	7	7	6	9	6	19
		Apr. 75	7	6	7	9	7	17
	Mode	Oct. 74	0	0	0	0	4	2
		Apr. 75	0	0	5	5	4	3
	Median	Oct. 74	5	5	5	6	4	15
		Apr. 75	5	5	5	5	5	10
CCCE (if different from chief physical therapist)	Mean	Oct. 74	14	10	10	19	5	6
		Apr. 75	14	10	10	16	7	5
	Mode	Oct. 74	15	0	6	10	2	6
		Apr. 75	15	2	6	12	2	5
	Median	Oct. 74	11	9	6	12	5	6
		Apr. 75	12	10	8	12	8	5
Staff physical therapist without students	Mean	Oct. 74	15	13	13	15	13	19
		Apr. 75	15	14	12	15	11	20
	Mode	Oct. 74	15	15	12	14	5	14
		Apr. 75	12	12	12	16	5	12
	Median	Oct. 74	14	14	12	14	11	19
		Apr. 75	14	14	12	15	12	22
Clinical instructor	Mean	Oct. 74	14	12	15	16	13	17
		Apr. 75	13	11	14	13	9	17
	Mode	Oct. 74	10	10	12	15	5	13
		Apr. 75	10	10	10	0	5	14
	Median	Oct. 74	12	10	12	12	9	18
		Apr. 75	12	11	12	11	8	18

Source: UNC-CH study, 1975

*OPD = outpatient department

Table D.12
PATIENT LOAD FOR STUDENTS IN SELECTED TYPES OF CLINICAL CENTERS

Level of student (PT or PTA)	Measure	Period	Patient load per day: Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
Beginning student	Mean	Oct. 74	5	4	4	3	3	15
		April 75	5	4	4	4	3	16
	Mode	Oct. 74	4	5	6	4	0	0
		April 75	5	0	6	4	0	0
	Median	Oct. 74	5	4	5	2	4	5
		April 75	5	4	5	4	4	6
Intermediate student	Mean	Oct. 74	7	6	6	4	5	2
		April 75	7	6	6	5	5	5
	Mode	Oct. 74	6	6	6	6	2	0
		April 75	6	6	6	6	2	0
	Median	Oct. 74	6	6	6	4	4	2
		April 75	6	6	6	5	4	4
Advanced student	Mean	Oct. 74	9	8	8	8	8	20
		April 75	10	8	8	9	8	18
	Mode	Oct. 74	10	10	8	8	4	4
		April 75	10	10	8	8	4	4
	Median	Oct. 74	10	8	8	8	7	14
		April 75	10	8	8	9	8	13
Basis for response			Percent of respondents					
Departmental records			25	30	29	36	31	29
An estimate			75	70	71	64	69	71
Total			100	100	100	100	100	100

Source: UNC-CH study, 1975
* OPD = outpatient department

Table D.13
PATIENT LOAD OF SELECTED TYPES OF CLINICAL CENTERS

Type of patient	Measure	Period	Patient load per day Teaching hospital N=138	Rehabilitation center N=77	Pediatric OPD* N=50	Extended-care facility N=38	Public health N=17	Private practice N=7
Inpatients	Mean	Oct. 74	117	127	89	65	101	191
		April 75	117	130	93	68	101	191
	Mode	Oct. 74	70	0	0	20	0	0
		April 75	50	999	0	0	0	0
	Median	Oct. 74	61	62	26	54	15	62
		April 75	63	68	35	53	14	67
Outpatients	Mean	Oct. 74	57	50	69	15	16	68
		April 75	60	52	74	18	15	74
	Mode	Oct. 74	10	0	0	0	0	26
		April 75	15	0	2	0	0	0
	Median	Oct. 74	17	15	16	10	3	26
		April 75	17	17	20	10	4	32
Out of center patients	Mean	Oct. 74	2	2	3	1	2	2
		April 75	3	2	4	1	2	3
	Mode	Oct. 74	0	0	0	0	0	0
		April 75	0	0	0	0	0	0
	Median	Oct. 74	0	0	0	0	0	1
		April 75	0	0	0	0	0	0

Source: UNC-CH, 1975
* OPD=outpatient department

Table D.14
AGE OF PATIENTS IN SELECTED TYPES OF CLINICAL CENTERS

Age category of patient and source of response	Measure	Percentage of patients					
		Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Pediatric (0-17 years)							
	Mean	16	21	63	4	17	4
	Mode	10	0	99	0	0	2
	Median	5	6	96	2	2	4
Adult (18-64 years)							
	Mean	54	48	23	48	44	65
	Mode	60	0	0	60	75	40
	Median	60	50	1	50	40	75
Geriatric (65 years or more)							
	Mean	31	32	13	49	38	32
	Mode	40	30	0	30	0	20
	Median	30	30	0	40	35	30
Basis for response		Percentage of responding facilities					
Last annual report		34	38	47	34	19	29
Current patient load		66	62	53	66	81	71
Total		100	100	100	100	100	100

Source: UNC-CH study, 1975

* OPD = outpatient department

Table D.15
LENGTH OF CARE RECEIVED BY PATIENTS AT SELECTED TYPES OF CLINICAL CENTERS

Type of care by length	Measure	Percentage of patients					
		Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Short-term care							
	Mean	23	15	11	19	13	21
	Mode	10	0	0	0	0	5
	Median	20	10	1	15	2	5
Intermediate care							
	Mean	48	33	28	39	41	55
	Mode	60	30	0	30	0	25
	Median	50	30	21	40	48	43
Long-term care							
	Mean	29	52	61	42	47	24
	Mode	10	99	99	30	10	8
	Median	20	54	70	30	50	9

Source: UNC-CH study, 1975
*OPD = outpatient department

Table D.16
TREATMENT LOCATION IN SELECTED TYPES OF CLINICAL CENTERS

			Percentage of patient load					
Treatment location	Measure	Period	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Physical therapy department	Mean	Oct. 74	75	82	77	81	40	61
		Apr. 75	74	81	76	79	35	59
	Mode	Oct. 74	80	80	99	90	0	0
		Apr. 75	90	99	99	90	0	0
	Median	Oct. 74	80	88	88	90	1	70
		Apr. 75	80	87	88	90	0	60
Bedside	Mean	Oct. 74	18	11	8	12	9	10
		Apr. 75	18	11	9	12	8	11
	Mode	Oct. 74	10	5	0	10	0	0
		Apr. 75	10	5	0	10	0	0
	Median	Oct. 74	10	7	3	10	1	2
		Apr. 75	10	5	3	10	1	2
Outpatient clinic	Mean	Oct. 74	7	7	10	3	7	28
		Apr. 75	7	6	12	3	7	28
	Mode	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	0	0	0	0
	Median	Oct. 74	0	0	0	0	1	20
		Apr. 75	0	0	0	0	1	20
Basis for response			Percentage of respondents					
Department records			58	47	58	50	56	83
An estimate			42	54	42	50	44	17
Total			100	101	100	100	100	100

Source: UNC-CH study, 1975

* OPD = outpatient department

table continues

Table D.16 continued
TREATMENT LOCATION IN SELECTED TYPES OF CLINICAL CENTERS

Treatment location	Measure	Period	Percentage of patient load					
			Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD* N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Preventive/ screening program	Mean	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	1	0	0	0
	Mode	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	0	0	0	0
	Median	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	0	0	0	0
Patient's home	Mean	Oct. 74	0	1	1	3	43	0
		Apr. 75	0	0	2	3	42	1
	Mode	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	0	0	0	0
	Median	Oct. 74	0	0	0	0	8	0
		Apr. 75	0	0	0	0	1	0
Physical therapy facility other than own	Mean	Oct. 74	0	0	0	0	1	0
		Apr. 75	1	0	0	0	2	0
	Mode	Oct. 74	0	0	0	0	0	0
		Apr. 75	0	0	0	0	0	0
	Median	Oct. 74	0	0	0	0	1	0
		Apr. 75	0	0	0	0	1	0
Basis for response			Percentage of respondents					
Department records			58	47	58	50	56	83
An estimate			42	54	42	50	44	17
Total			100	101	100	100	100	100

Source: UNC-CH study, 1975
* OPD = outpatient department

Table D.17
EQUIPMENT USE IN
TEACHING HOSPITALS (N=138)

Equipment	Frequency of use (%)*					Equipment not available
	Daily %	Weekly %	Monthly %	Seldom %	Never %	%
Bicycle	67	16	4	3	0	8
Cervical traction	69	12	2	6	1	9
Cold-therapy equipment	37	23	9	13	0	17
Diathermy or microwave	42	16	[illegible]	15	4	14
EKG	5	3	2	6	9	73
EMG	25	18	4	7	6	39
Heavy-resistance equipment	62	13	1	4	0	19
Hot-pack unit	83	6	3	3	1	2
Hubbard tank	62	7	5	1	0	24
Infrared	26	6	8	28	6	24
Low-volt generator--evaluative	12	11	15	26	4	30
Low-volt generator--therapeutic	25	23	12	26	1	11
Mats	86	7	2	1	0	2
Moist-heat cabinet	9	4	3	4	4	75
Nerve conduction	23	15	2	8	9	41
Paraffin bath	41	25	15	6	3	9
Parallel bars	93	2	0	1	1	0
Pelvic traction	33	12	7	10	4	32
Pool	12	3	0	4	2	78
Shoulder wheel	41	13	6	11	1	25
Tilt table	63	19	12	1	0	4
Training stairs	87	6	0	1	0	6
Treadmill	13	10	4	5	7	59
Ultrasound	73	7	4	4	1	9
Ultraviolet	15	13	9	36	6	17
Vitalometers	5	7	4	6	4	73
Walking tank	8	1	4	4	1	80
Wall pulleys	67	10	4	4	1	13
Whirlpool	83	9	2	1	0	2

Source: UNC-CH study, 1975
*Frequency indicated is % of teaching hospitals responding to each item.

Table D.18
EQUIPMENT USE IN REHABILITATION CENTERS (N=77)

Equipment	Frequency of use (%)*					Equipment not available
	Daily %	Weekly %	Monthly %	Seldom %	Never %	%
Bicycle	70	13	0	5	0	7
Cervical traction	52	13	4	9	0	18
Cold-therapy equipment	39	17	5	16	0	20
Diathermy or microwave	34	12	7	18	3	23
EKG	5	1	5	5	14	68
EMG	23	8	8	8	9	42
Heavy-resistance equipment	64	8	1	3	1	20
Hot-pack unit	77	9	4	0	1	4
Hubbard tank	65	5	4	1	0	21
Infrared	27	1	7	34	7	21
Low-volt generator--evaluative	9	12	18	23	5	29
Low-volt generator--therapeutic	21	25	8	27	3	14
Mats	91	1	0	1	0	0
Moist-heat cabinet	10	3	3	5	10	68
Nerve conduction	18	8	5	8	13	47
Paraffin bath	35	23	12	12	4	10
Parallel bars	91	3	0	1	0	1
Pelvic traction	25	9	7	17	7	33
Pool	18	7	0	7	3	64
Shoulder wheel	35	5	8	17	4	27
Tilt table	69	12	9	0	0	5
Training stairs	83	4	3	0	0	8
Treadmill	18	4	7	9	7	53
Ultrasound	58	5	7	8	3	16
Ultraviolet	14	8	13	35	3	22
Vitalometers	5	7	4	4	8	71
Walking tank	8	3	5	7	3	73
Wall pulleys	73	7	4	3	1	9
Whirlpool	73	16	3	3	0	3

Source: UNC-CH study, 1975
*Frequency indicated is % of rehabilitation centers responding to each item.

Table D. 19
EQUIPMENT IN USE IN PEDIATRIC OUTPATIENT DEPARTMENTS (N=50)

Equipment	Frequency of use (%)*					Equipment not available %
	Daily %	Weekly %	Monthly %	Seldom %	Never %	
Bicycle	58	10	4	8	0	18
Cervical traction	36	6	0	4	2	50
Cold-therapy equipment	16	16	4	12	0	50
Diathermy or microwave	24	4	6	10	2	52
EKG	2	6	6	2	6	78
EMG	12	4	6	4	4	68
Heavy-resistance equipment	38	10	4	6	0	40
Hot-pack unit	42	10	4	10	2	30
Hubbard tank	42	4	6	2	2	42
Infrared	16	4	8	14	8	48
Low-volt generator--evaluative	4	6	12	18	6	52
Low-volt generator--therapeutic	12	12	8	28	4	34
Mats	92	2	0	0	0	2
Moist-heat cabinet	6	2	0	8	8	76
Nerve conduction	10	6	2	8	4	68
Paraffin bath	16	18	6	8	6	44
Parallel bars	84	6	2	2	0	4
Pelvic traction	14	6	2	12	6	58
Pool	24	2	2	4	4	64
Shoulder wheel	20	2	6	16	4	50
Tilt table	60	12	6	2	0	16
Training stairs	76	14	0	2	0	8
Treadmill	10	10	2	6	6	64
Ultrasound	36	2	2	10	2	46
Ultraviolet	12	8	6	22	6	44
Vitalometers	8	8	6	2	6	68
Walking tank	4	2	4	2	4	82
Wall pulleys	44	12	10	8	0	24
Whirlpool	56	16	4	6	0	16

Source: UNC-CH study, 1975

*Frequency indicated is % of pediatric outpatient departments responding to each item.

Table D.20
EQUIPMENT USE IN EXTENDED-CARE FACILITIES (N=38)

Equipment	Frequency of use (%)*					Equipment not available
	Daily %	Weekly %	Monthly %	Seldom %	Never %	%
Bicycle	61	16	5	5	0	8
Cervical traction	63	8	8	5	0	13
Cold-therapy equipment	40	21	5	11	0	21
Diathermy or microwave	40	13	8	18	5	13
EKG	5	5	5	0	5	79
EMG	11	8	8	0	8	66
Heavy resistance equipment	55	5	3	3	0	32
Hot-pack unit	84	5	3	3	0	0
Hubbard tank	45	5	0	0	3	45
Infrared	26	0	16	32	8	16
Low-volt generator--evaluative	8	11	16	29	0	34
Low-volt generator--therapeutic	11	18	13	34	0	21
Mats	79	11	3	3	0	0
Moist-heat cabinet	11	5	3	0	5	74
Nerve conduction	5	8	8	8	13	58
Paraffin bath	32	29	21	11	0	3
Parallel bars	90	3	0	0	0	3
Pelvic traction	13	16	8	21	3	37
Pool	11	5	0	3	0	79
Shoulder wheel	37	5	11	13	3	29
Tilt table	50	18	16	5	0	5
Training stairs	71	11	5	3	0	5
Treadmill	11	8	5	8	8	58
Ultrasound	71	3	11	3	0	11
Ultraviolet	24	16	13	21	5	16
Vitalometers	5	5	3	5	0	82
Walking tank	3	0	5	3	0	87
Wall pulleys	71	5	3	3	0	13
Whirlpool	76	8	3	8	0	3

Source: UNC-CH study, 1975
*Frequency indicated is % of extended-care facilities responding to each item.

Table D.21
EQUIPMENT USE IN
PUBLIC HEALTH AGENCIES (N=17)

Equipment	Frequency of use (%)*					Equipment not available
	Daily	Weekly	Monthly	Seldom	Never	
	%	%	%	%	%	%
Bicycle	18	18	12	12	0	41
Cervical traction	24	18	0	18	0	41
Cold-therapy equipment	18	6	0	12	0	65
Diathermy or microwave	12	0	0	18	0	71
EKG	0	6	0	0	12	82
EMG	12	12	6	0	0	71
Heavy-resistance equipment	35	0	0	0	0	65
Hot-pack unit	41	0	6	18	0	35
Hubbard tank	29	0	0	0	0	71
Infrared	6	0	0	29	0	65
Low-volt generator--evaluative	6	6	12	24	0	53
Low-volt generator--therapeutic	6	12	24	29	0	29
Mats	47	6	0	0	0	41
Moist-heat cabinet	0	0	0	0	0	100
Nerve conduction	12	6	6	0	6	71
Paraffin bath	6	18	6	35	0	35
Parallel bars	47	0	0	6	0	47
Pelvic traction	18	0	0	12	0	71
Pool	0	0	0	0	6	94
Shoulder wheel	12	12	0	18	0	59
Tilt table	24	12	0	12	0	53
Training stairs	41	6	0	6	0	47
Treadmill	6	0	12	0	6	77
Ultrasound	29	12	6	0	0	53
Ultraviolet	6	0	6	29	0	59
Vitalometers	6	0	6	6	6	77
Walking tank	6	0	0	0	0	94
Wall pulleys	24	12	12	12	0	41
Whirlpool	35	6	12	6	0	41

Source: UNC-CH study, 1975
*Frequency indicated is % of public health agencies responding to each item.

Table D.22
EQUIPMENT USE IN PRIVATE PRACTICES (N=7)

Equipment	Frequency of use (%)*					Equipment not available
	Daily %	Weekly %	Monthly %	Seldom %	Never %	%
Bicycle	29	43	0	0	0	0
Cervical traction	86	0	0	0	0	0
Cold-therapy equipment	57	29	0	0	0	0
Diathermy or microwave	71	14	0	0	0	0
EKG	0	0	0	0	0	100
EMG	0	0	0	14	0	71
Heavy-resistance equipment	57	0	0	0	0	29
Hot-pack unit	71	14	0	0	0	0
Hubbard tank	43	0	0	0	0	43
Infrared	43	0	0	14	0	29
Low-volt generator--evaluative	0	0	0	14	14	57
Low-volt generator--therapeutic	29	29	14	0	0	14
Mats	43	0	14	0	0	14
Moist-heat cabinet	0	0	0	0	14	86
Nerve conduction	0	0	0	14	0	71
Paraffin bath	29	43	14	0	0	0
Parallel bars	29	0	14	0	0	29
Pelvic traction	71	0	0	0	0	14
Pool	29	0	0	0	0	71
Shoulder wheel	43	14	0	0	0	14
Tilt table	43	0	0	0	0	43
Training stairs	43	14	0	0	0	43
Treadmill	0	0	0	0	0	100
Ultrasound	86	0	0	0	0	0
Ultraviolet	14	14	0	14	0	43
Vitalometers	0	0	0	0	0	86
Walking tank	29	0	0	0	0	57
Wall pulleys	57	0	0	0	0	29
Whirlpool	71	14	0	0	0	0

Source: UNC-CH study, 1975
*Frequency indicated is % of private practices reponding to each item.

Table D.23
SPACE AVAILABLE FOR STAFF IN SELECTED TYPES OF CLINICAL CENTERS

Type of space	Percentage of clinical centers*					
	Teaching hospital N=138 %	Rehabilitation center N=77 %	Pediatric OPD** N=50 %	Extended-care facility N=38 %	Public health N=17 %	Private practice N=7 %
Secretarial (place to type)	77	70	74	68	56	57
Private office	32	26	25	35	19	57
Shared office	80	84	82	73	75	71
Carrels	10	13	8	5	0	0
Conference room	56	67	59	49	75	29
Research room(s)	8	9	8	5	6	14
Library or reference area	77	78	82	68	75	71

Source: UNC-CH study, 1975
* % indicated is % of clinical centers responding to each item
** OPD=outpatient department

Table D.24
ADVANTAGES AND DISADVANTAGES OF MULTIPLE AFFILIATIONS
Clinical Center Response

Advantage or disadvantage	Frequency of response (%)* (N=156)				
	Strongly agree %	Agree %	Disagree %	Strongly disagree %	Don't know %
Advantages					
Gives a broad view of PT education	42	54	4	0	0
Gives a broad pool of consultants	15	35	36	7	6
Provides large amount of stimulation through student questioning	53	43	5	0	0
Provides more exposure to new concepts	56	39	5	0	0
Disadvantages					
Too many people to deal with (faculty and administrators)	0	6	70	24	0
Too many evaluation forms to deal with	11	26	52	12	0
Too much disparity among goals of schools	2	10	69	18	1
Too many students to deal with	3	15	67	15	1
Lack of privacy for the staff	3	14	61	22	0

Source: UNC-CH study, 1975

* Only clinical centers which actually affiliated with more than one school responded, and % indicated is % of clinical centers responding to each item.

Table D.25
REASONS FOR TERMINATION BY A CENTER OF AN AFFILIATION WITH AN EDUCATIONAL PROGRAM

Reason for termination	Frequency of response			
	CC N=250*	CCCE N=127*	ACCE N=53*	Total
Staff problems				
Shortage	9	3	12	24
Lack of time	0	0	1	1
Not permanently staffed	0	0	3	3
Fatigued with students	0	0	3	3
Center problems				
Only a temporary break in affiliation	2	0	0	2
Policy change	1	0	4	5
Administrative restrictions or problems	2	0	3	5
Inadequate patient load	1	0	2	3
Inadequate space	0	0	1	1
Schedule too demanding	0	1	0	1
Educational program deficiencies				
No continuing education offered	1	0	1	2
Poor faculty participation	2	1	0	3
Educational program discontinued	1	1	0	2
Needs of center overlooked	1	1	0	2
Grading only by observation	0	1	0	1
Center dissatisfied with educational program	0	0	1	1
Conflicts between center and educational program				
Conflict of dates	1	0	0	1
Poor communication	1	3	0	4
Administrative conflict	3	0	0	3
Conflict in objectives	0	2	0	2
Students				
Ill-prepared students	6	7	2	15
Students not sent to center	1	0	0	1
Behavioral problems with student	0	1	0	1
Financial considerations				
No remuneration from educational program	1	2	0	3
General financial problems	2	1	3	6
Lack housing for students	1	0	1	2
Lack travel funds for students	0	0	2	2
Miscellaneous				
Legislation (can't hire assistants)	1	0	1	2
Reason for termination unknown	2	1	0	3

Source: UNC-CH study, 1975

*Responses are based on the 25 (10%) clinical centers, 19 (15%) CCCEs, and 29 (55%) ACCEs reporting an affiliation terminated by the center.

Table D.26
REASONS FOR TERMINATION BY AN EDUCATIONAL PROGRAM OF AN AFFILIATION WITH A CENTER

Reason for termination	Frequency of response			
	CC N=250*	CCCE N=127*	ACCE N=53*	Total
Staff problems				
Shortage	3	1	9	13
New staff or new program	2	0	0	2
Inadequate supervision of students	1	2	11	14
Chief not licensed	1	0	0	1
Unsatisfactory teaching	0	0	3	3
Staff not receptive to students	0	0	4	4
Staff offered poor role model	0	0	6	6
Staff offered poor patient care	0	0	7	7
Poor staff	0	0	4	4
Staff not up-to-date	0	0	1	1
Center problems				
Period of assignment changed	1	1	0	2
Policy or staff change	3	2	6	11
Requirements not met by center	1	0	2	3
Administrative problems	0	1	2	3
Inadequate learning experiences	0	0	10	10
Change in patient load	0	0	1	1
Poor program	0	0	14	14
Temporary break	2	0	0	2
Educational program difficulties				
Scheduling problems	1	0	0	1
Educational program discontinued	0	1	0	1
Conflicts between center and educational program				
Conflict in objectives	1	1	3	5
Conflict over contract	0	1	0	1
Conflict over student role	0	0	8	8
Student-related problems				
Students wanted different affiliation	2	1	1	4
Student complaints about center	1	1	4	6
Lack of students	0	1	0	1
Too many students	0	0	1	1
Students being abused	0	0	1	1
Financial considerations				
Center increased tuition	1	0	0	1
Conflict regarding reimbursement	0	1	2	3
Student housing and travel funds not available	3	4	0	7
Miscellaneous				
Reason for termination unknown	3	0	0	3

Source: UNC-CH study, 1975

*Responses are based on the 22 (9%) clinical centers, 15 (12%) CCCEs, and 44 (83%) ACCEs reporting termination of an affiliation by the educational program.

Table D.27
PERSONS INVOLVED IN CLINICAL EDUCATION BY LEVEL OF EDUCATION

Highest academic degree held	Category of Respondent											
	NG		Director of PT		CCCE as reported by director of PT		CCCE		CI		ACCE	
	N=130		N=250		N=66		N=127		N=140		N=53	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Associate (PTA)	28	(22)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Baccalaureate	45	(35)	170	(68)	53	(80)	85	(67)	89	(64)	12	(23)
Basic masters	32	(25)	12	(5)	3	(5)	3	(2)	25	(18)	3	(6)
Certificate	17	(13)	12	(5)	3	(5)	14	(11)	17	(12)	2	(4)
Advanced masters	0	(0)	53	(21)	7	(11)	17	(13)	9	(6)	34	(64)
Ed.D. or Ph.D.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	1	(2)

Source: UNC-CH study, 1975

Table D.28
EDUCATIONAL PURSUIT OF CLINICAL FACULTY

Educational pursuit	Clinical Faculty Members CCCE N=127 N (%)	 CI N=140 N (%)	 ACCE N=53 N (%)
Presently pursuing education	85(67)	95(68)	37(70)
Presently not pursuing education	39(31)	43(31)	15(28)
Unknown	3(2)	2(1)	1(2)
FORMAL SCHOOL WORK	20(16)	17(12)	15(28)
Degree currently pursuing			
a) B.A. or B.S.	1(1)	0	0
b) M.A. or M.S.	16(13)	17(12)	12(23)
c) Ph.D., Ed.D., or D.S.	2(2)	0	3(6)
Missing	1(1)		
Highest degree intending to earn			
a) B.A. or B.S.	0	0	0
b) M.A. or M.S.	14(11)	10(7)	5(9)
c) Ph.D., Ed.D., or D.S.	4(3)	7(5)	10(19)
Missing	2(2)		
Current academic major			
a) Physical therapy	3	1	2
b) Psychology	1		1
c) Counseling	1	2	3
d) Education or administration or both	9	5	7
e) Science and education			1
f) Administration and management	1		
g) Management		2	
h) Curriculum and instruction			1
i) Sports medicine	1		
j) Child development or child care	2		
k) Learning disabilities	1		
l) Special education		1	
m) Allied health sciences	1		
n) Pre-med		1	
o) Liberal arts		1	
p) Anatomy		2	
q) Physiology		2	
r) Human relations		1	

table continues

Source: UNC-CH study, 1975

Table D.28 continued

EDUCATIONAL PURSUIT OF CLINICAL FACULTY

Educational pursuit	Clinical Faculty Members CCCE N=127 N (%)	 CI N=140 N (%)	 ACCE N=53 N (%)
Semester units earned			
0	6	2	1
1-10	7	5	4
11-20	2	8	3
21-30	2		4
31-40	3		1
41-50			
51-60 or more			1
Quarter units earned			
0	18	14	
1-10	1		14
11-20		2	
21-30		1	1
ONGOING CONTINUING EDUCATION COURSES OF AT LEAST SIX HOURS IN PLANNED BLOCK	67(53)	68(49)	32(60)
OTHER TYPES OF EDUCATIONAL PURSUITS	24(19)	33(24)	10(19)

Source: UNC-CH study, 1975

Table D.29
PERSONS INVOLVED IN CLINICAL EDUCATION BY EXPERIENCE

Experience		Category of respondent				
Number of years	Type	Director of physical therapy	CCCE (as reported by director of PT)	CCCE (as reported by CCCE)	CI	ACCE
		N=250	N=66	N=127	N=140	N=53
		N (%)	N (%)	N (%)	N (%)	N (%)
0	part-time	–	–	40 (32)	62 (44)	27 (51)
	full-time	0	0	0	0	1 (2)
Less than 1	part-time	–	–	0	4 (3)	1 (2)
	full-time	0	0	0	0	0
1	part-time	–	–	9 (7)	4 (3)	3 (6)
	full-time	0	0	1 (1)	4 (3)	0
2	part-time	–	–	3 (2)	6 (4)	6 (11)
	full-time	7 (3)	3 (5)	7 (6)	12 (9)	2 (4)
3	part-time	–	–	2 (2)	2 (1)	3 (6)
	full-time	14 (6)	11 (17)	11 (9)	15 (11)	4 (8)
4	part-time	–	–	3 (2)	1 (1)	6 (11)
	full-time	21 (8)	6 (9)	11 (9)	17 (12)	7 (13)
5	part-time	–	–	1 (1)	1 (1)	2 (4)
	full-time	17 (7)	9 (14)	10 (8)	14 (10)	5 (9)
6-10	part-time	–	–	2 (2)	2 (1)	2 (4)
	full-time	67 (27)	16 (24)	30 (24)	38 (27)	16 (30)
11-15	part-time	–	–	1 (1)	0	2 (4)
	full-time	35 (14)	11 (17)	18 (14)	20 (14)	11 (21)
16-20	part-time	–	–	1 (1)	0	1 (2)
	full-time	38 (15)	6 (9)	13 (10)	11 (8)	5 (10)
21 and over	part-time	–	–	1 (1)	0	0
	full-time	46 (19)	4 (6)	22 (18)	9 (6)	2 (4)

Source: UNC-CH study, 1975

Table D.30
PERSONS INVOLVED IN CLINICAL EDUCATION BY AGE

Age	Category of Respondent									
	Director of PT N=250		CCCE (as reported by director of PT N=66		CCCE (as reported by CCCE) N=127		CI N=140		ACCE N=53	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Under 25	8	(3)	3	(5)	6	(5)	15	(11)	0	(0)
25-29	64	(26)	30	(45)	39	(31)	58	(41)	9	(17)
30-34	48	(19)	13	(20)	20	(16)	25	(18)	13	(25)
35-39	28	(11)	13	(20)	18	(14)	14	(10)	10	(19)
40-44	35	(14)	4	(6)	11	(9)	11	(8)	5	(10)
45-49	35	(14)	2	(3)	6	(5)	7	(5)	7	(13)
50-54	11	(4)			16	(13)	8	(6)	7	(13)
55-59	7	(3)	1	(2)	5	(4)	1	(1)	1	(2)
60-64	8	(3)	1	(2)	1	(1)	0	(0)	0	(0)
65 and over	2	(1)			0	(0)	0	(0)	1	(2)

Source: UNC-CH study, 1975

Table D.31
PERSONS INVOLVED IN CLINICAL EDUCATION BY SEX

Sex	Category of Respondent					
	NG N=130 N(%)	Director of physical therapy N=250 N(%)	CCCE (as reported by director of PT) N=66 N(%)	CCCE(as reported by CCCE) N=127 N(%)	CI N=140 N(%)	ACCE N=53 N(%)
Female	104(80)	160(64)	56(85)	94(74)	105(75)	44(83)
Male	26(20)	85(34)	10(15)	30(24)	35(25)	9(17)

Source: UNC-CH study, 1975

Table D.32
FACTORS CONTRIBUTING TO A GOOD CLINICAL EDUCATION EXPERIENCE

Factor	Level of student**	Frequency of response (%)*											
		Absolutely essential				Useful, but not essential				Mean***			
		NG %	CCCE %	CI %	ACCE %	NG %	CCCE %	CI %	ACCE %	NG	CCCE	CI	ACCE
Many patients to treat	B	2	6	3	11	52	47	42	45	2.5	2.5	2.3	2.6
	A	32	27	23	39	64	65	68	59	3.3	3.2	3.1	3.4
Large variety of patients to treat	B	25	26	22	13	64	64	71	55	3.1	3.1	3.2	2.8
	A	83	68	70	53	17	31	30	47	3.8	3.7	3.7	3.5
Pleasant atmosphere	B	55	66	55	45	44	34	44	55	3.5	3.7	3.5	3.5
	A	47	61	55	34	53	38	45	64	3.5	3.6	3.6	3.3
Interesting patients	B	33	38	31	14	65	61	69	79	3.3	3.4	3.3	3.1
	A	46	49	46	44	54	50	53	54	3.5	3.5	3.5	3.4
Talented staff to learn from	B	79	61	59	49	21	38	41	49	3.8	3.6	3.6	3.5
	A	80	71	66	68	20	28	34	32	3.8	3.7	3.7	3.7
Opportunity to practice	B	85	86	81	76	13	12	19	25	3.8	3.8	3.8	3.8
	A	96	98	99	92	4	2	1	8	4.0	4.0	4.0	3.9
Explore own objectives	B	35	33	35	19	44	50	50	51	3.1	3.1	3.2	2.8
	A	74	65	70	69	26	33	29	27	3.7	3.6	3.7	3.7
Atmosphere receptive to students	B	93	95	96	96	7	4	4	4	3.9	3.9	4.0	4.0
	A	79	91	92	94	21	9	8	6	3.8	3.9	3.9	3.9
Staff interested in teaching	B	94	95	91	100	6	4	8	0	3.9	3.9	3.9	4.0
	A	82	89	93	94	18	10	7	6	3.8	3.9	3.9	4.0
Performance feedback from staff	B	86	97	93	96	12	3	7	4	3.8	4.0	3.9	4.0
	A	91	97	96	98	8	3	4	2	3.9	4.0	4.0	4.0
Presence of other students	B	5	3	3	4	57	69	69	77	2.6	2.7	2.7	2.8
	A	4	3	6	8	57	68	71	80	2.6	2.7	2.8	2.9
Enough space to work in	B	22	-	-	-	71	-	-	-	3.1	-	-	-
	A	27	-	-	-	68	-	-	-	3.2	-	-	-
Well-run department	B	43	74	73	40	54	24	27	53	3.4	3.7	3.7	3.3
	A	38	74	70	47	61	26	29	51	3.4	3.7	3.7	3.5
Participation in research	B	3	2	1	0	44	50	51	34	2.4	2.4	2.5	2.2
	A	19	11	18	26	66	80	74	61	3.0	3.0	3.1	3.1

Source: UNC-CH study, 1975

table continues

* Frequency indicated is % of respondents replying to each item

** B=for beginning student; A=for advanced student

*** 4 point scale; 1=not useful at all, 4=absolutely essential

Table D.32 Continued
FACTORS CONTRIBUTING TO A GOOD CLINICAL EDUCATION EXPERIENCE

Factor	Level of Student**	Frequency of response (%)*											
		Absolutely essential				Useful, but not essential				Mean***			
		NG %	CCCE %	CI %	ACCE %	NG %	CCCE %	CI %	ACCE %	NG	CCCE	CI	ACCE
Participation in department management	B	4	6	5	0	34	39	41	27	2.2	2.4	2.4	2.1
	A	33	31	30	39	58	63	63	48	3.2	3.2	3.2	3.2
Participation in variety of educational experience	B	50	49	58	29	44	45	39	55	3.4	3.4	3.5	3.1
	A	73	68	71	62	27	30	28	37	3.7	3.7	3.7	3.6
Assignment long enough to accomplish objectives	B	71	69	69	70	27	31	30	28	3.7	3.7	3.7	3.7
	A	78	77	85	87	22	23	15	12	3.8	3.8	3.8	3.8
Well-prepared students	B	-	61	54	64	-	40	45	36	-	3.6	3.5	3.6
	A	-	85	80	90	-	15	20	10	-	3.8	3.8	3.9
Students with purpose	B	-	78	77	89	-	22	23	12	-	3.8	3.8	3.9
	A	-	94	91	98	-	6	9	2	-	3.9	3.9	4.0
Sufficient background information about students	B	-	33	34	60	-	53	55	28	-	3.2	3.2	3.5
	A	-	42	32	63	-	49	59	33	-	3.3	3.2	3.5

Source: UNC-CH study, 1975

* Frequency indicated is % of respondents replying to each item

** B = for beginning student
A = for advanced student

*** 4 point scale
1 = not useful at all
4 = absolutely essential

Table D.33
MODIFICATIONS OF CLINICAL EDUCATION REQUIREMENTS ALLOWED BY THE ACADEMIC COORDINATOR OF CLINICAL EDUCATION FOR THE STUDENT WITH PRE-PHYSICAL THERAPY EXPERIENCE

Modification of clinical education experience	Frequency of Response (%)*	
	Allow modification %	Do not allow modification %
Bypass requirements	4	96
Reduce requirements	9	91
Redesign requirements	15	85
Other allowances	17	83
No modification allowed	28	72

Source: UNC-CH study, 1975
* Frequency indicated is % of ACCEs responding to each item

Table D.34
STUDENT INPUT INTO SITE SELECTION

Student input	Frequency of response (%)*	
	Input allowed %	Input not allowed %
Student site requests	85	15
Student site choice	43	57
Student site arrangement	17	83
Other student influence	13	87
Any input at all	68	32

Source: UNC-CH study, 1975
* Frequency indicated is % of ACCEs responding to each item

Table D.35

METHOD CLINICAL INSTRUCTOR UTILIZES TO DETERMINE STUDENT ACTIVITIES DURING ASSIGNMENT

Method of determination	Frequency of response (%)*					
	Always %	Usually %	Sometimes %	Seldom %	Never %	Not Applicable %
Use plan developed by CCCE	19	24	14	6	19	15
Use plan developed by ACCE	7	11	15	10	37	16
Talk with student about his/her desires and objectives	52	37	6	1	2	0
Try to fill in gaps in student's past experience	33	46	14	1	3	1
Watch student perform, then assign tasks	25	29	27	11	6	0
Try to fit student in with own activities	11	31	28	12	14	1

Source: UNC-CH study, 1975
*Frequency indicated is % of CIs responding to each item

Table D.36
LIMITING FACTORS IN DESIGNING CLINICAL EDUCATION IN A CENTER

Factors	Respondents indicating item as a factor (%)*		Mean response**	
	CCCE N=127 %	CI N=140 %	CCCE	CI
Physicians won't refer patients	8	14	.1	.1
Physicians won't allow physicial therapists to perform certain activities	11	19	.1	.2
Educational program won't allow students to perform certain activities	0	4	0	0
Students not prepared	37	36	.4	.4
Length of affiliation too short	52	50	.6	.5
Lack of time in day	40	55	.4	.5
Inadequate interdepartmental relationships	5	7	.1	.1
Inadequate space	13	18	.1	.2
Activity is not policy of center	8	18	.1	.2

Source: UNC-CH study, 1975

* Percent indicated is percent of respondents replying to each item.

** 2 point scale
0 = is not a factor
1 = is a factor

APPENDIX D

Section E

National Center for Health Statistics

Table E.1
UTILIZATION OF HOSPITALS IN STATE A
FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospital (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	0	13	13
25-49	0	17	14	31
50-99	2	10	6	18
100-199	5	7	2	14
200-299	5	4	0	9
300-399	6	1	0	7
400-499	3	1	0	4
500-999	3	1	0	4
1000 or more	0	1	0	1
Total	24	42	35	101

Source: 1973 NCHS survey of hospitals, and 1974 "soft data"

Table E.2
UTILIZATION OF OTHER HEALTH FACILITIES IN STATE A FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Type of facility	Other health facilities used for clinical education N	Other health facilities not used for clinical education N	Total N
Nursing and convalescent homes and extended-care facilities	1	206	207
Orphanages	0	5	5
Home for unwed mothers	0	1	1
Resident facility for blind	0	2	2
Resident facility for deaf	0	0	0
Resident facility for emotionally disturbed	0	38	38
Resident facility for mentally retarded	1	34	35
Resident facility for other neurologically handicapped	0	1	1
Resident facility for physically handicapped	0	0	0
Resident facility for alcoholics	0	9	9
Resident facility for drug abusers	0	1	1
Juvenile detention	0	0	0
Other	0	4	4
Total	2	301	303

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.3
UTILIZATION OF NURSING HOMES IN STATE A FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	39	39
25-49	0	32	32
50-74	0	45	45
75-99	0	24	24
100-199	1	58	59
200-299	0	6	6
300-499	0	2	2
500 or more	0	0	0
Total	1	206	207

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.4
UTILIZATION OF FACILITIES FOR THE MENTALLY RETARDED IN STATE A FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	23	23
25-49	0	7	7
50-74	0	2	2
75-99	0	0	0
100-199	0	0	0
200-299	0	0	0
300-499	0	1	1
500 or more	1	1	2
Total	1	33	34

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.5
UTILIZATION OF HOSPITALS IN STATE B FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospital (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	1	1	2
25-49	0	5	9	14
50-99	0	27	10	37
100-199	0	26	8	34
200-299	0	11	1	12
300-399	6	5	0	11
400-499	3	6	0	9
500- 999	8	3	2	13
1000 or more	1	1	2	4
Total	18	85	33	136

Source: 1973 NCHS survey of hospitals and 1974 "soft data"

Table E.6
UTILIZATION OF OTHER HEALTH FACILITIES IN STATE B FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Type of facility	Other health facilities used for clinical education N	Other health facilities not used for clinical education N	Total N
Nursing and convalescent homes and extended-care facilities	1	465	466
Orphanages	0	27	27
Home for unwed mothers	0	5	5
Resident facilities for blind	0	1	1
Resident facilities for deaf	0	1	1
Resident facilities for emotionally disturbed	0	22	22
Resident facilities for mentally retarded	0	11	11
Resident facilities for other neurologically handicapped	0	0	0
Resident facilities for physically handicapped	0	3	3
Resident facilities for alcoholics	0	11	11
Resident facilities for drug abusers	0	0	0
Junvenile detention	0	0	0
Other	0	24	24
Total	1	570	571

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.7
UTILIZATION OF NURSING HOMES IN STATE B FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	87	87
25-49	0	171	171
50-74	0	72	72
75-99	0	42	42
100-199	1	76	77
200-299	0	11	11
300-499	0	5	5
500 or more	0	1	1
Total	1	465	466

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.8
UTILIZATION OF HOSPITALS IN STATE C FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospital (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	1	7	8
25-49	2	3	11	16
50-99	2	24	19	45
100-199	12	35	8	55
200-299	15	22	1	38
300-399	15	7	0	22
400-499	4	3	2	9
500-999	5	8	3	16
1000 or more	1	4	1	6
Total	56	107	52	215

Source: 1973 NCHS survey of hospitals and 1974 "soft data"

Table E.9
UTILIZATION OF OTHER HEALTH FACILITIES IN STATE C FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Type of facility	Other health facilities used for clinical education N	Other health facilities not used for clinical education N	Total N
Nursing and convalescent homes and extended-care facilities	0	888	888
Resident facilities for blind	0	5	5
Resident facilities for deaf	0	4	4
Resident facilities for emotionally disturbed	0	65	65
Resident facilities for mentally retarded	1	16	17
Resident facilities for physically handicapped	1	1	2
Total	2	979	981

Source: 1973 NCHS survey of nursing homes and "other" health facilties and 1974 "soft data"

Table E.10
UTILIZATION OF HOSPITALS IN STATE D FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospitals (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	0	10	10
25-49	1	2	17	20
50-99	4	19	24	47
100-199	9	27	12	48
200-299	5	4	3	12
300-399	4	8	0	12
400-499	4	2	0	6
500-999	7	1	0	8
1000 or more	3	1	0	4
Total	37	65	66	167

Source: 1973 NCHS survey of hospitals and 1974 "soft data"

Table E.11
UTILIZATION OF OTHER HEALTH FACILITIES IN STATE D FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Type of facility	Other health facilities used for clinical education N	Other health facilities not used for clinical education N	Total N
Nursing and convalescent homes and extended-care facilities	5	825	830
Orphanages	0	33	33
Home for unwed mothers	0	2	2
Resident facilities for blind	0	3	3
Resident facilities for deaf	0	3	3
Resident facilities for emotionally disturbed	0	16	16
Resident facilities for mentally retarded	3	14	17
Resident facilities for other neurologically handicapped	0	0	0
Resident facilities for physically handicapped	0	1	1
Resident facilities for alcoholics	0	25	25
Resident facilities for drug abusers	0	0	0
Juvenile detention	0	0	0
Other	0	3	3
Total	8	925	933

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.12
UTILIZATION OF NURSING HOMES IN STATE D FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	567	567
25-49	0	118	118
50-74	0	71	71
75-99	1	24	25
100-199	4	37	41
200-299	0	6	6
300-499	0	2	2
500 or more	0	0	0
Total	5	825	830

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.13
UTILIZATION OF FACILITIES FOR THE MENTALLY RETARDED IN STATE D FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	10	10
25-49	0	1	1
50-74	0	1	1
75-99	0	1	1
100-199	0	0	0
200-299	0	0	0
300-499	0	0	0
500 or more	3	1	4
Total	3	14	17

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.14
UTILIZATION OF HOSPITALS IN STATE E FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospital (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	0	0	0
25-49	0	1	0	1
50-99	0	1	2	3
100-199	0	4	1	5
200-299	3	1	0	4
300-399	1	1	0	2
400-499	0	1	0	1
500-999	1	2	0	3
1000 or more	0	1	1	2
Total	5	12	4	21

Source: 1973 NCHS survey of hospitals and 1974 "soft data"

Table E.15
UTILIZATION OF OTHER HEALTH FACILITIES IN STATE E FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Type of facility	Other health facilities used for clinical education N	Other health facilities not used for clinical education N	Total N
Nursing and convalescent homes and extended-care facilities	0	155	155
Orphanages	0	0	0
Home for unwed mothers	0	0	0
Resident facilities for blind	0	0	0
Resident facilities for deaf	0	1	1
Resident facilities for emotionally disturbed	0	4	4
Resident facilities for mentally retarded	0	7	7
Resident facilities for other neurologically handicapped	0	0	0
Resident facilities for physically handicapped	0	0	0
Resident facilities for alcoholics	0	0	0
Resident facilities for drug abusers	0	0	0
Juvenile detention	0	0	0
Other	0	0	0
Total	0	167	167

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Table E.16
UTILIZATION OF HOSPITALS IN STATE F FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of hospital (number of beds)	Hospitals used for clinical education	Hospitals not used for clinical education		Total
		With PT service	Without PT service	
	N	N	N	N
6-24	0	2	60	62
25-49	0	23	159	182
50-99	2	65	53	120
100-199	8	71	12	91
200-299	7	16	0	23
300-399	7	9	0	16
400-499	6	5	0	11
500-999	6	4	2	12
1000 or more	6	0	0	6
Total	42	195	286	523

Source: 1973 NCHS survey of hospitals and 1974 "soft data"

Table E.17
UTILIZATION OF NURSING HOMES IN STATE F FOR CLINICAL EDUCATION OF PHYSICAL THERAPY STUDENTS

Size of facility (number of beds)	Facilities used for clinical education N	Facilities not used for clinical education N	Total N
Less than 25	0	47	47
25-49	0	195	195
50-74	0	248	248
75-99	0	123	123
100-199	0	250	250
200-299	0	28	28
300-499	1	3	4
500 or more	0	1	1
Total	1	895	896

Source: 1973 NCHS survey of nursing homes and "other" health facilities and 1974 "soft data"

Appendix E

EVALUATION EXAMPLES

INTRODUCTORY NOTE

The following pages contain selected examples of items from evaluation instruments utilized in physical therapy education. They were excerpted from the hundreds of devices submitted in the "soft data" by educational administrators and staff in the clinical centers. Project staff thought that providing examples of items currently in use would be more valuable to the reader than developing textbook-type examples. In a few cases where examples were not available in the "soft data" modified textbook examples have been used. (Some selections are used with the permission of the publisher or author, while selections from the "soft data" have been handled anonymously.)

The items selected appeared in evaluation instruments which contained both good and poor features, or features upon which improvements seemed possible. The manner in which they are used in this section of the Appendix isolates them and takes them out of context; in the context in which they originally appeared they may have served the purposes for which their designers intended them.

These selections correspond as closely as possible to the text of Chapter 6. Page numbers cited indicate the location in the text where the specific evaluation procedure is discussed. Each item is accompanied by a brief analysis of its content, structure, or purpose.

Evaluation examples have been chosen to illustrate the topics listed below. In some cases one item depicts more than one topic.

--high inference items
--representativeness of coverage
--observability
--criteria for items and dimensions of performance
--statements of competency
--quality of rating scales
--instructions to rater
--statements of purpose
--narrative reports
--critical incidents
--checklist scales (cumulative points)
--narrative scales
--graphic scales
--forced-choice scales

EXHIBIT I

HIGH INFERENCE ITEM

CLINICAL FACILITY __________________________________ *Training Period I II*

Please comment on the following:

1. *Physical Facilities:*
2. *Operational Procedures (scheduling, safety measures, etc.):*

This device illustrates items which require a high degree of inference from the rater, since instructions are negligible. Responses vary significantly and the Academic Coordinator of Clinical Education may have difficulty in summarizing the comments in order to give adequate feedback to the clinical center or to make adequate judgments on the clinical center. (See pages 6-10 and 6-16.)

* * * * * * * * *

EXHIBIT II

HIGH INFERENCE ITEMS: REPRESENTATIVENESS OF COVERAGE:

CRITERIA FOR ITEMS

6. *Interest*
7. *Reliability*
8. *Treatment skills*

These items are not behaviorally stated. The device contains a total of only eight traits, and lacks any definition of terms or instructions for use by the rater. Problems for the rater arise in utilizing the non-specific terms, which will produce global and nebulous judgments, and in determining the applicability of the traits to specific areas of performance. The rater is unable to complete the device without a high degree of inference. (See pages 6-10 and 6-16.)

EXHIBIT III

OBSERVABILITY: CRITERIA FOR ITEMS

1. *General Knowledge: The student should show fundamental knowledge and understanding of the basic principles in the following areas:*

   A. Anatomy
   B. Physiology
   C. Neuroanatomy and neurophysiology
   D. Pathology
   E. Kinesiology
   Comments:

Two Weeks					Four Weeks				
4	3	2	1	N/O	4	3	2	1	N/O

Knowledge and understanding in the areas mentioned above are better and more adequately evaluated by paper and pencil tests or by other means. It is doubtful that attainment of knowledge and understanding of the basic principles of broad subject areas like these is observable. Aside from the larger consideration of feasibility, a device such as this one does not provide sufficient detail for the rater to make adequate judgments. (See pages 6-11, 6-15 and 6-16.)

* * * * * * * * *

EXHIBIT IV

NUMERICAL RATING SCALE: CRITERIA FOR ITEMS

Compare this student with all other assistant students within identical levels of expected competency, which you have supervised, and circle the appropriate number. (1=low; 5=high)

Performance 1 2 3 4 5
Initiative 1 2 3 4 5
Reliability 1 2 3 4 5

This device requires the rater to compare one student to others for which norms are not available. Effective evaluation is obtained when each person is rated on his/her own personal achievement by predetermined desirable competencies or skills. The rating scale of 1 to 5 is inadequately defined, as are the items on the device. (See pages 6-15, 6-16 and 6-21.)

EXHIBIT V

DIMENSIONS OF PERFORMANCE: CRITERIA FOR ITEMS

STUDENT EVALUATION FORM

Key:

1. *Student does not meet basic requirements--requires continuous help and cannot be left alone when performing tasks at Senior level.*
2. *Indicates performance requiring constant supervision with moderate help in performing task at Senior level.*
3. *Indicates performance with moderate supervision requiring minimal help in performing task at Senior level.*
4. *Indicates performance with minimal supervision and no help required in performing task at Senior level.*
5. *Indicates performance with no supervision--independent with tasks at Senior level.*

I. DEVELOPED THE ABILITY TO SELECT AND PERFORM EVALUATION AND ASSESSMENT PROCEDURES.

This example of a student evaluation form provides well-defined behavioral characteristics, so long as "Senior level" is understood, or has been described in previous material. The rating categories, as they are defined, were utilized on all items (only one is shown) involved in performance evaluation on the device which followed. (See pages 6-15 and 6-16.)

EXHIBIT VI

CRITERIA FOR ITEMS: DIMENSIONS OF PERFORMANCE

PERSONAL CHARACTERISTICS

Since the following items deal with the student's personality, they are difficult to measure objectively. We do feel, however, that these characteristics are important in the total evaluation of the student. Therefore, we are asking for a subjective opinion by having the rater check in the appropriate column.

STRONG		SATISFACTORY		NEEDS FURTHER DEVELOPMENT		
MID	FINAL	MID	FINAL	MID	FINAL	
						Dependability
						Emotional Stability
						Adaptability
						Patience and Tolerance
						Punctuality
						Cleanliness & Neatness in Appearance
						Poise

Personal characteristics are difficult to rate becuase they are difficult to describe in behavioral terms. The device shown here is an effort to give the rater the opportunity to comment on a student's personality in areas considered by the developer as unsuited to a more specific performance evaluation. The instructions clearly indicate that the judgments requested are considered subjective. (Some of the items included could be reworded to be more objective and to fit into a more acceptable format for performance evaluation. Traits, such as "emotional stability," can be expressed in behavior terms.) (See pages 6-15 and 6-16.)

EXHIBIT VII

CLARITY AND SPECIFICITY OF ITEMS

A.

Competent	Incompetent	
		Sets priorities for workload, organizes self to accomplish necessary tasks.
		Shares responsibility for care of physical environment of the clinic.
		Notifies appropriate persons of supply needs, equipment suggestions.
		Takes defined responsibilities within clinic.
		Responds appropriately during emergency situation.

B. *III. COMMUNICATION SKILLS*

A. Oral Communication

1. *Communicates with patient professionally but on patient's level of understanding.*
2. *Explains the purpose of the treatment to patient and checks for understanding.*
3. *Gives no unnecessary or misinformation to the patient.*
4. *Is careful with confidential information in communicating with patient or staff.*
5. *Communicates with staff effectively. (At appropriate time, expresses self clearly, and accurately.)*
6. *Instructs and demonstrates to other team members when appropriate and checks for follow-through.*

These examples offer clearly and specifically written items from two devices for evaluating a student. In Example A, however, specific characteristics are not grouped; therefore, in summarizing the student appraisal, no profile of the student's performance is possible unless the material is computerized. In Example B, six items pertaining to areas of performance in oral communication are grouped so that it is possible to determine individual performance in that area of communication skills. (See pages 6-11, 6-15 and 6-16.)

EXHIBIT VIII

STATEMENTS OF COMPETENCY

CRITERIA FOR EVALUATION OF PHYSICAL THERAPY STUDENTS

Standards of performance for each student level vary in accordance with the stated objectives, for that given level, of each Physical Therapy Curriculum. In general, however, standards of performance for each level are as follows.

__FIRST YEAR STUDENTS__ (part time affiliation) are expected to: (adapted to school's curriculum)

1. *Demonstrate knowledge in the use and care of equipment.*
2. *Use good body mechanics in relation to both the patient and himself.*
3. *Observe the patient prior to, during, and following treatment and make judgments accordingly.*
4. *Use communication skills appropriately in patient-therapist relationship.*

7

__SECOND YEAR STUDENTS__ (part time), in addition to the above, are expect to:

1. *Correlate knowledge of basic principles with clinical application of Physical Therapy procedures.*
2. *Use evaluation procedures effectively.*
3. *Observe and understand the physical and emotional status of the patient.*
4. *Use communication skills effectively in dealing with patient, family, and departmental personnel.*
5. *Be aware of the importance of organizational, administrative, and supervisory practices.*

__FULL TIME STUDENTS__ (final affiliation), in addition to above, are expected to:

1. *Function as a professional member of the staff*
2. *Learn the mechanics of administrative procedures in this department, as well as an appreciation of the need for such procedures and the problems involved.*
3. *Demonstrate a knowledge of comprehensive health care, and to be effective in interprofessional relationships.*
4. *Show a concern for professional growth.*

It is expected that at all levels the students will be knowledgable, but not yet proficient, in the skills and attitudes expected of them.

This is a sample list of statements of competencies expected of students at different levels. While the statements are written in somewhat broad terms to describe student achievement at a specific time, they can be helpful to the rater when accompanied by other materials. Similar descriptions of competencies are desirable for specific types of assignments and periods of assignments. (See page 6-15.)

EXHIBIT IX

STATEMENTS OF COMPETENCY

AREA: INSTRUCTION

This area concerns itself with the abilities required to function effectively as a teacher in the professional laboratory, clinic, and educational environment of the student. It is concerned with the effective utilization of the techniques, skills, and attitudes that lead to the development of a productive learning climate. It would include the ability to

1. Maximize the learning climate utilizing objectives, process, evaluation, and feedback.
2. Utilize the most effective instructional materials and techniques to achieve the learning objectives.
3. Operate the equipment needed to produce and present those instructional materials.
4. Prepare appropriately reliable and valid instruments of evaluation which reflect the specified objectives.
5. Develop and maintain effective and productive relationships with students.
6. Create learning experiences that improve skills and influence attitudes, as well as increase knowledge.

Reprinted by permission of the author (051).

These are well-expressed statements of competency suggested for a device for evaluation of clinical faculty. The statements can be arranged with a rating scale for the assistance of the rater.

EXHIBIT X

INSTRUCTIONS TO THE RATER (INCLUDING PURPOSE)

JOB PERFORMANCE EVALUATION

Job performance ratings are tools of management, for the benefit of both employee and employer. Rating systems can be used by the employee on a self-evaluation basis, and the employer can make use of it to justify merit salary changes and product quantitative and qualitative analysis. Evaluations will be accomplished on the anniversary date of each employee. New employees will be rated at the conclusion of the first three months employed in accordance with existing personnel policies. On special occasions, a performance evaluation will be accomplished to meet the needs of the organization.

The rating system below will be completed by your immediate supervisor and reviewed by the Executive Director. Space is provided at the conclusion of the evaluation for supplementary comments. Item 12 is applicable only to supervisory personnel being rated. Item 10 is applicable only to the extent that written communication is necessary in the performance of the job. Clarification of this rating can be made in the supplemental comment section.

The evaluator will review the assessment with the employee prior to a review by the Executive Director. Assessment challenges by the personnel being rated will be recorded by the evaluator for review by the Executive Director.

This example of instructions to the rater illustrates adequate description of the purpose and use of an evaluation instrument designed to rate clinical staff. (See pages 6-14, 6-17, and 6-18.)

EXHIBIT XI

INSTRUCTIONS TO THE RATER FOR SELF EVALUATION (INCLUDING PURPOSE)

The philosophy behind the operation of _______________ Memorial Hospital is management by objective. Employees are encouraged to develop individual goals within the framework of the hospital's main purpose; which is the care of the acutely ill patient. Periodically, the individual is asked to determine how well he has accomplished his objectives. We have found the techniques so valuable that we are asking our physical therapy interns to participate in the same type of self evaluation, the major difference being that your objectives and some methods for accomplishing them have been predetermined for you. Your self evaluation is not limited by the questions on the form. Feel free to comment as elaborately as you feel necessary. The purpose of the evaluation is threefold:

1) It is a learning experience for you in that it is an introduction to management by objective.

2) It should help you to summarize your experience here, measure your growth, and identify your strengths and weaknesses.

3) It will help us see ourselves as others see us, and hopefully, suggest ways we can improve our service.

The instructions to the rater, in this case the student who will perform a self-evaluation, wisely include purpose and procedure to be used. (See pages 6-14, 6-17 and 6-18.)

EXHIBIT XII   INSTRUCTIONS TO THE RATER (INCLUDING PURPOSE)

General Principles

Careful evaluation should be used as a mechanism for determining strengths and weaknesses of the individual student, as well as the effectiveness of the academic and clinical programs. Although any rating method will be somewhat subjective, every precaution should be taken to make it as objective as possible by following these accepted principles of rating.

A. The student should be rated:
   1. On the basis of definite observations made of his work & behavior.
   2. On the basis of typical and frequent manner of performance rather than on isolated instances.

B. Cautions for the rater:
   1. Become "rating conscious" by familiarizing yourself with the rating form in advance so you know what you are asked to observe. Look for concrete instances in the daily work of the student which will assist you in formulating your judgments. The more instances you can cite, the better able you will be to support your rating in discussions with the student.
   2. Avoid translating a student's potential into a higher rating than the present performance warrants.
   3. Avoid the "halo effect" which is allowing the value of one item to influence the grade in another item.
   4. Do not guess. If you have had insufficient opportunity to observe the characteristic in question, and consultation with other staff members also proves unfruitful, makr the category N.O.

C. Utilization of the report:
   1. It is suggested that the student's performance be evaluated at mid-point. If he is doing well, give him this assurance as well as constructive criticism which may guide him to even better performance. If there are areas that need improvement, make him aware of these and give positive suggestions for improvement.
   2. It is recommended that explanatory remarks be included, particularly for items graded "2" or below. The remarks should indicate strengths and/or weaknesses not merely list activities performed.
   3. The completed form should be discussed with the student, signed by him and forwarded to the school not later than the last day of the period.

D. Purpose of Criteria:
   1. Provide a guideline to produce more uniform interpretation and grading.
   2. Provide a guideline for developing objectives and learning experiences.

These are well-defined instructions to the rater evaluating students. They include when and how to rate the student and a clear statement of purpose. (See pages 6-17 and 6-18.)

EXHIBIT XIII

INSTRUCTIONS OR HINTS FOR PART-TIME EVALUATORS (RATERS)

I. *Try to avoid comments like:*

1. *This is hard to evaluate at this level.*
   If you made this comment, re-check the objectives; maybe she is not supposed to do this.
2. *She hopefully will improve in . . .*
3. *Anything she lacks should be picked up in the future . . .*
4. *With more experience she should be able to . . .*
   The object is to talk about what the student is doing now. Students should get more competent with experience. If you want to comment on student's potential you might say . . . If the student continues to be (inquisitive, look up material, evaluate self, etc.) she should become a competent therapist.

II. *Below are samples of comments that have been helpful to students.*

PROFESSIONAL BEHAVIOR
Initially, she appeared to be over-enthusiastic as well as overly verbal, in the patient-therapist situation. The former was manifested primarily by an overabundance of questions which appeared to be asked for the sake of asking rather than well thought out. We have discussed this and she has since markedly improved by reminding herself to listen both to others and to herself and to carefully think through the questions which she asks. In our discussion, we agreed that the above stemmed from her being anxious about seeing so much to learn and wanting to learn it all at once.
REPORTING
She recognizes the need for reporting and has written several excellent notes after discussion with the therapist.
TEACHING
She has been able to go from observing to some correcting of exercises.
EVALUATION
By assisting with ROM measurement on a LFA patient, she became aware of the value of goniometry as an evaluative tool.
PLANNING
Primarily observation and discussion. Mary still gives the impression that she would like some definite guidelines rather than planning a Rx herself. At this stage of affiliation we do not expect more than this. She has treated a patient with a low back problem and arranged his next appointment.

The narrative comments in these instructions to the rater provide helpful explanation. Sample items were also given to describe constructive ways to describe a student's development, strengths and weaknesses, personal traits, negative traits, and failing performance. (See pages 6-17 and 6-18.)

EXHIBIT XIV

NARRATIVE EVALUATION

PHYSICAL THERAPY CLINICAL AFFILIATION EVALUATION
FOR JANE DOE

Jane Doe has spent the past 3 weeks in the physical therapy department at the Home Town General Hospital. Her clinical experiences were primarily with patients with acute and sub-acute conditions.

Jane was not assigned to a specific individual for consultation and supervision. Therefore, the contents of this evaluation represents the composite thoughts of our registered therapists and registered assistants.

We feel that Jane has shown growth in her overall performance and self-confidence since being here. She has demonstrated satisfactory knowledge and skills in performing her assigned duties. She seemed quite capable of patient evaluations and management and was able to record her findings logically and concisely via the S.O.A.P. notes. Her periodic progress notes were generally good, up-to-date and punctual.

Jane's verbal communication was satisfactory. She made staff contacts on those occasions when she felt assistance was indicated. Jane seemed to always be busy when not involved with actual patient care by either reading or catching up on her paper work.

Jane performed several series of nerve conduction velocity studies under supervision. She demonstrated a good understanding of the general principles and techniques of NCVs. With a little more practice under guidance, she should become rather adept in these highly technical skills. Her follow through on the reporting of the data collected was complete.

We would recommend that Jane keep alert to every opportunity to move the patient to the next stage of advancement. If doubt or uncertainty prevails, we recommend that she always feel free to contact other, more experienced, members of the staff or to contact the physician for clarification.

Jane was professional in her mannerisms and behavior and always presented a strinkingly neat and well-groomed appearance. Her general attitude was good--not overly friendly nor unfriendly. Her rapport with staff, patients and others was good.

Jane will undoubtedly become a very successful clinician and practitioner since she possesses the qualities and attributes necessary for a professional person.

This is a sample of an unstructured narrative evaluation of a student. The ACCE must extrapolate the pertinent information for evaluation purposes and combine the information with that from other evaluations. (See page 6-19.)

EXHIBIT XV

A NARRATIVE CRITICAL INCIDENT FORM

STUDENT INTERIM EVALUATION

STUDENT'S NAME: ______________________________ PHYSICAL THERAPIST: __________

1. Personal Appearance and Personality (overall appearance, quiet, withdrawn, aggressive, etc.)
2. Conduct and Attitude (promptness; willingness to work and assist; acceptance of criticisms and suggestions; use of free time; care of equipment; relationship to other students and staff, etc.)
3. Knowledge and Understanding of Basic Theory (anatomy, kinesiology, neurology, pathology, positioning, therapeutic exercise, A.D.L., etc.)
4. Application and Skill of Technical Knowledge (testing procedures, re-education procedures, A.D.L., gait analysis, use of modalities, body mechanics, need for supervision, etc.)

Please cite examples. Thank you.

Reprinted by permission of the editor (145)

This example of a narrative critical incident device provides adequate clues on which the rater can base his evaluation of a student's skills and traits. (See pages 6-14 and 6-19.)

* * * * * * * * *

EXHIBIT XVI

CRITICAL INCIDENTS

1. She had one patient with pneumonia who refused to cough and she thought up different ways to try to get him to cough. Required no prompting from physical therapist.
2. Realized that one patient was not an ambulation candidate at this time and she set her goal at being able to do transfer activities.
3. Needed to be firmer with one patient who did not want to cooperate. The patient did finally agree to perform when student was firmer and positive with commands.
4. Tended to use medical terminology with patients. For example, "Extend and rotate your leg." The patient, therefore, had trouble understanding and performing exercises. Student needed reminding to modify terminology.

The example above contains four critical incidents each related clearly to specific incidents. (See pages 6-14 and 6-19.)

EXHIBIT XVII

CHECKLIST WITH NARRATIVE RESPONSE

Place a ✓ beside any quality in which this person is lacking, needs improvement. Please describe the specific circumstances which led you to this assessment.

This person fails to

1. maintain a neat appearance
2. practice good personal hygiene
3. accept responsibility

Unfortunately the personal and professional qualities to be rated on this checklist are requested in a negative manner. With minor changes the checklist could be phrased to solicit positive responses. The instructions, while brief, are clear. Also ample space is provided for the rater's descriptive remarks. (See pages 6-19 and 6-21.)

EXHIBIT XVIII

CHECKLIST WITH GRAPHIC SCALE FEATURES

Faculty Evaluation: Patient Care Skills

KEY: E - Exceptional
S - Satisfactory
M - Marginal
U - Unsatisfactory
NA - Not Applicable
UK - Unknown

A. DEMONSTRATES AN EFFECTIVE EVALUATION PROCESS	E	S	M	U	NA	UK	COMMENTS
1. Evaluated the total patient,							
2. Uses all available data (Family, chart, etc.),							
3. Selects appropriate physical therapy tests,							
4. Performs the appropriate physical therapy tests,							
5. Records results concisely and objectively, and							
6. Interprets results concisely and objectively							
B. PLANS A COMPREHENSIVE PHYSICAL THERAPY PROGRAM							
1. Synthesizes all available data,							
2. Considers alternatives,							
3. Establishes realistic long term goals, and							
4. Establishes realistic short term goals.							

This instrument is suitable for self-evaluation, peer evaluation, or supervisor evaluation. The items described in behavioral terms, are grouped in an effective manner around common indicators of performance. The inclusion of a non-applicable and an unknown column is useful as is the column for comments. However, the key to the rating scale needs fuller definitions of the terms to be used by the rater.

The device from which these items were chosen includes a page on procedures, why the device is used, who will use the device, what will be included in the device, and when the device will be used.

(See page 6-21.)

EXHIBIT XIX

NUMERICAL RATING SCALE

Circle the numbers which best describe the student's relationship to other students in the clinic. Use the following key.

5 = excellent
4 = above average
3 = average
2 = below average
1 = poor

Adapted from TenBrink (217)

This numerical rating scale is presented to illustrate the inadequacy of the terms employed in the key, which are too general to give adequate guidance to the rater. (See page 6-21).

* * * * * * * * *

EXHIBIT XX

NUMERICAL RATING SCALE

Describe the atmosphere in the clinical center. Circle the most descriptive choice.

10. *Most pleasant imaginable*
9. *Most pleasant*
8. *Extremely pleasant*
7. *Moderately pleasant*
6. *Mildly pleasant*
5. *Indifferent*
4. *Mildly unpleasant*
3. *Moderately unpleasant*
2. *Extremely unpleasant*
1. *Most unpleasant*
0. *Most unpleasant imaginable*

Adapted from Guilford (099)

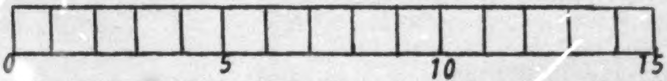
This numerical scale evaluation in contrast to the preceding example, provides a key of specific terms. (See page 6-21).

EXHIBIT XXI

NUMERICAL SCALE IN GRAPHIC STYLE

STAFF EVALUATION

COMPETENCY RATING SCALE:



0 - 5: *MINIMAL COMPETENCY: A rating in this area should be explained by one or more statements to note specific behaviors or skills which require improvement.*

5 - 10: *COMPETENT: The Physical Therapist meets all acceptable standards.*

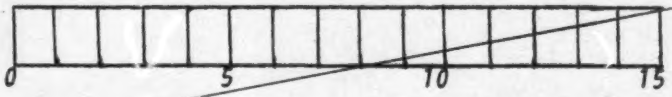
10 - 15: *EXCEPTIONAL COMPETENCY: The therapist exhibits outstanding abilities and this rating may merit one or more statements citing specific performance.*

EVALUATION (Cont'd)

D. THERAPIST AND DOCTORS:

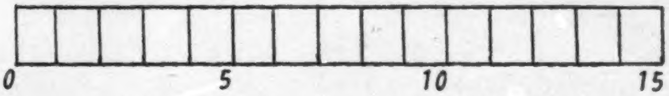
1. Therapist is candid in patient conferences.

Rating



2. Therapist keeps doctor informed of pertinent changes in patient's condition.

Rating



The use of 15 points on a graphic numerical rating scale is not in itself unacceptable, but there appears to be inadequate description or definitions of the 15 points on the scale. The rater will have difficulty deciding whether to check 3 or 4, or 7 or 8 for example (See page 6-21.)

EXHIBIT XXII

GRAPHIC SCALE

PART I. GENERAL PROFESSIONAL PREPARATION

There are twelve areas of general professional preparation considered. Please place a ✓ at the top of ONE column in each area that best describes the student's level of performance in that area. Do not check on the line between two columns.

For each area, place a ✓

HERE ✓	OR HERE ✓	OR HERE ✓	OR HERE ✓

1. EVALUATION SKILL: *Obtains pertinent information and performs appropriate evaluation procedures to determine patient status.*

☐ NOT OBSERVED

Without assistance can-	*Seldom needs assistance to-*	*Frequently needs assistance to -*	*Continually needs assistance to-*

identify and utilize pertinent information from chart, patient, and other sources; correctly select and effect evaluation techniques; substantiate findings with objective data; evaluate patient during treatment; develop treatment programs appropriate for goals.

☐ *✓here if student anticipates problems; is unusually adept at recognizing changes in patient status.*

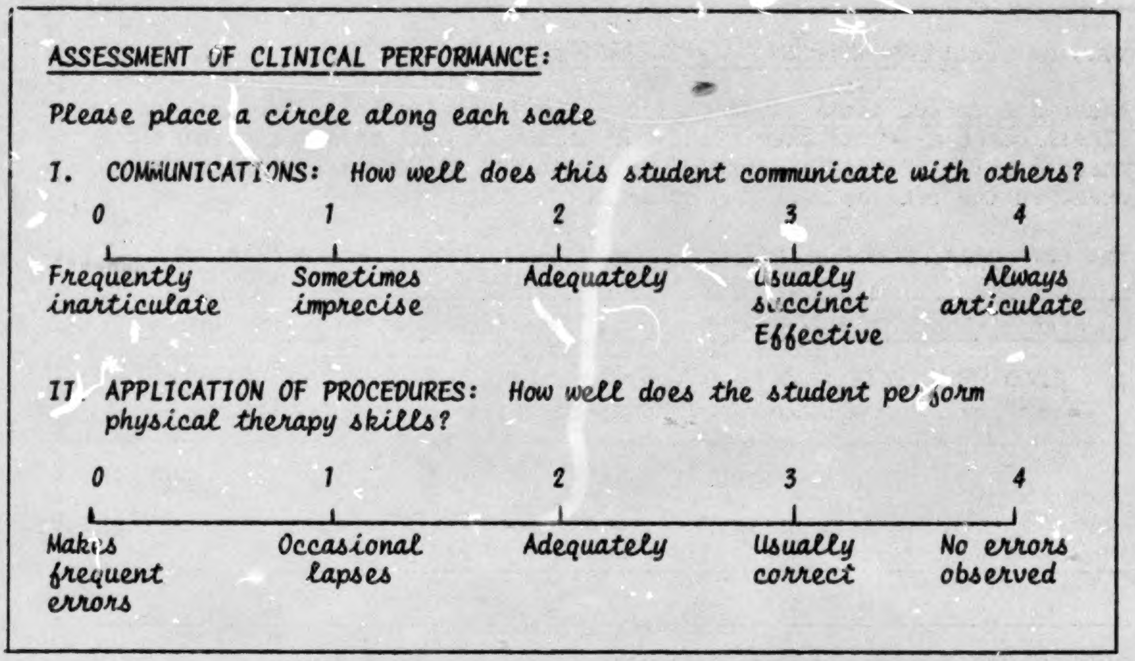
☐ *✓here if student is consistently unsafe or ineffective in carrying out evaluation procedures.*

COMMENTS:

This graphic device is basically good. The instructions are clear, with an example to aid the rater. Anchors on the scale are well described and the student is rated on his/her own performance instead of compared with others. Comments are requested for which space is made available. Space for "not observed" is included. The device might be criticized as requiring high inference from the rater, i.e., the individual being rated might know how to select evaluation techniques, but not how to develop treatment goals. Since the two skills appear together, the rater cannot indicate separate ratings. (See page 6-21.)

EXHIBIT XXIII

GRAPHIC RATING SCALE WITH NUMERICAL VALUES



ASSESSMENT OF CLINICAL PERFORMANCE:

Please place a circle along each scale

I. COMMUNICATIONS: *How well does this student communicate with others?*

0	1	2	3	4
Frequently inarticulate	*Sometimes imprecise*	*Adequately*	*Usually succinct Effective*	*Always articulate*

II. APPLICATION OF PROCEDURES: *How well does the student perform physical therapy skills?*

0	1	2	3	4
Makes frequent errors	*Occasional lapses*	*Adequately*	*Usually correct*	*No errors observed*

This numerical rating scale provides cues for establishing the dimensions of personal performance, and the scale anchors are adequate. There were several more items under "COMMUNICATIONS" using the same scale anchors, and there were several items under "APPLICATION OF PROCEDURES" also using the same scale anchors. The variation in scale anchors to be used for each separate group of items is a good feature. (See page 6-21.)

EXHIBIT XXIV

GRAPHIC RATING SCALE

A. *In group sessions how has the Staff Physical Therapist been?*

Talkative	*An easy talker*	*Talked when necessary*	*Preferred listening*	*Refrained from talking*

B. *How good is this staff member's relationship to his colleagues?*

Extremely poor	*Poor*	*Fair*	*Good*	*Excellent*

Adapted from TenBrink (217).

These are good examples of graphic rating scales. The scale anchors might be more fully defined, especially in Example B. The examples show the use of a broken base line. (See page 6-21.)

* * * * * * * * *

EXHIBIT XXV

FORCED CHOICE RATING SCALE

INSTRUCTIONS: Please complete this form by circling for each group the letter in front of the phrase which is ***most*** *descriptive or* ***most*** *characteristic of the student whom you are rating. Circle only* ***one*** *under each number.*

1. a. *Does not become emotionally involved in patient's problems.*
   b. *Does not let difficulties get him down.*
   c. *Demonstrates some leadership ability.*

2. a. *Recognizes adverse psychological reactions.*
   b. *Applies principles learned in basic sciences to understand theory of procedures used.*
   c. *Has a knowledge of the common neuromuscular disabilities.*

3. a. *Asks only diplomatic questions in front of patient.*
   b. *Refrains from discussing personal problems with patients.*
   c. *Offers patient suitable goals.*

Reprinted by permission of the publisher (017).

The three items above appear on a well-designed Forced Choice rating scale on student performance. This example makes use of a triplet of statements. Only one phrase in each group has been determined to discriminate in performance evaluation of a student physical therapist.

EXHIBIT XXVI

FORCED CHOICE RATING SCALE

Which one of the four terms below best fits the Academic Coordinator of Clinical Education?

______________ *Careless*

______________ *Serious-minded*

______________ *Energetic*

______________ *Snobbish*

Adapted from Guilford (099).

This Forced Choice rating scale uses adjective pairs. In an item such as the above one pair with high preference value and one pair with low preference value have been determined. However, only one term in each pair has been shown to discriminate between the ratee who performs well and the one who does not. One benefit of such an item is that although a rater will hesitate to pick one of two unfavorable descriptions, he/she will be comfortable selecting from one of two favorable descriptions.